THE

AMERICAN FARMER,

AND

SPIRIT OF THE AGRICULTURAL JOURNALS OF THE DAY.

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WORK FOR AUGUST.

In taking up our pen to commune with our readers upon the business of the month, it may, perhaps, be opportune to the occasion to say something in regard to the character and quantities of the crops which have just been harvested. Of the *wheat* crop, taking it in the average, judging from the accounts we have seen from all the wheat growing states of the union, we come to the conclusion, that a very large one has been grown. Thus believing, we consider it our duty to state the fact. The products of Maryland and Virginia are, we deeply regret, considerably below the usual average, and even in these states much of that which has been garnered is not of good quality. The *Rye* crop, as far as we are able to judge, has been light in most districts—and here we will make the passing remark, that it is a matter of surprise to us that farmers, in view of the uncertainty of this crop—in view of its oft repeated failures—in view of the disappointments they have had to encounter for so many years—we say, in view of all these discouraging circumstances, we are surprized, that farmers have not long since substituted the culture of Barley for that of Rye, the former being a much more certain crop, besides being greatly more productive, and being very nearly, if not quite as good for the food of stock. We throw out these remarks thus early, in order that Agriculturists may have time for reflection and to lay their plans of operation for the ensuing year. Of the *Barley* crop of the present season we have seen no statements, and, therefore shall not undertake to say any thing of its product, but will premise that as no mention has been made of its failure, the fair inference is, that it has escaped the ills of the season. The *Oats-crop*, from all the givings out, promises to be a good one, and that of *Grass*, has, without doubt, been large. Of the corn crop, there seems to be great diversity of opinion—while in some sections the belief is entertained that it will be short, in others the most sanguine expectations are indulged in that the product will be large—and we incline to the latter opinion. As the culture of *Tobacco* has, of late years, become so widely extended, it is almost impossible to conjecture what may be the result of the crop in the aggregate, though we think from our present information that the product of Maryland and Virginia cannot reach a fair average, as we believe less has been planted this season than usual, owing to the limited demand, and the immense quantity which has accumulated, especially of the inferior sorts.

Having remarked upon the products of our own country, it may be well to state, that the concurrent testimony of the news from abroad goes to impress the belief, that the grain-growing regions across the Atlantic were promised at the last advices with abundant harvests—and if no unforeseen casualties should occur, it is but fair to presume that the bread-stuffs will abound in that quarter of the world.

Having thus briefly reviewed the crops, we may be permitted to call attention to those things which it is necessary to have attended to

ON THE FARM.

Oats Harvesting.—It is possible that in a considerable portion of our country the oat-crop has yet to be cut, and, therefore, we will observe that a true economy would dictate that they should be cut *before they become dead ripe.* Oats, as our readers are aware, is very liable to loss from shattering, if permitted to become entirely ripe on the stalk before being cut, and they have doubtless often witnessed under such circumstances, that their stubble fields, a few weeks after harvest, were as well set with oat plants as though the field had been resowed. To prevent such losses it is only necessary to cut the crop before the grain arrives at that state of dead ripeness which renders shattering inevitable. By early cutting, while the grain is not the least impaired in quantity or quality, the quality of the straw is much more valuable for stock, as it retains when cut comparatively green, much more nutritive matter, and is therefore greatly more invigorating as food for, as well as being more acceptable to, stock. In the curing of oats, it should be an object with the farmer to expose it as little as possible to the weather, as should it get wet, both the straw and grain would be injured.

Timothy meadows—Sowing of Timothy Seed—As every crop of hay gathered and carried from off a timothy meadow tends, to a certain extent, to exhaust its soil, every farmer should make his arrangements to be able after every alternate crop of hay to give his meadow a *top-dressing* of some nutritive compost, in which ashes should form a component part. Therefore, to such as may be in a condition to avail themselves of our advice, we would respectfully suggest that they would greatly improve the produce of their meadows next year if they would *now* have them harrowed, apply three or four cart loads of compost—or even one of ashes—to each acre, and then pass the roller over the ground. The harrowing would act as a working to the roots of the timothy plants, open the *soil* to atmospheric influences, and increase its capacity for absorbing the enriching gases that are always floating in the air—again, harrowing would bury the seeds which were shattered out in the process of cutting the grass, thereby ensure their vegetation, increase the stand of plants the ensuing season, and augment the yield. That the compost, or ashes, would impart vigor to the plants, there can be no question, while the operation of rolling would prevent any injury which might have arisen from that of harrowing. If meadows were treated as we suggest, we have no doubt that we should hear fewer complaints of their either being bound out or run out.

As the time for sowing *timothy* seed has arrived, we would say that the sooner they are sown the better, and we would further remark, that it is useless to expect good timothy meadows unless the soil be naturally fertile, or made rich by manure, and that the soil be put in the very best condition, by deep, truthful ploughing, thorough and repeated harrowing and rolling. The farmer when he is about laying down a field to Timothy, should recollect, that, as it is to continue for a series of years undisturbed—that as it will have to bear its burthen of grass for many succeeding seasons, it is necessary he should place it in that state in which it is reasonable for him to expect to see his expectations realized.

Of the *quantity of seed per acre*, we would observe, that liberality in this respect is always rewarded. The usual quantity of seed per acre is *one peck*—and this, if all the seeds in that quantity were perfect, and sure to germinate, might be enough—We, however, would prefer to sow a *peck and a half* to the acre—in this quantity we would look for our guaranty against disappointment from imperfect seed, and an assurance that our ground would be well set with timothy plants, to the exclusion of those of the tribe of weeds. In the *selection* of seed, we recommend care to be taken, as when a man is about to perform a labor which he calculates to last for several years, common sense and interest combine to say that it should be done well.

In harrowing in the Timothy seed, the *Bush* harrow, if it may be so termed, is generally used, though our belief is, that a meadow can never be regularly set with such an implement. For our part we would invariably use a light, short tooth garden harrow—and he who may not own one ought, forthwith, buy one. The harrowing having been performed, let the ground be rolled with a heavy roller, so as to press the earth closely around the seed, and thus secure quick germination.

Draining and ditching.—This is possibly one of the best seasons of the year for carrying on these operations, and we would therefore advise the owners of lands to avail themselves of its occurrence to relieve any fields they may have in a wet condition, naturally, of their surplus water. It is useless to expect good crops where the roots of plants have to struggle for existence in a bed of puddle—aquatic plants may there exist and flourish, but it is impossible that the grain crops or artificial grasses can thrive under such disadvantageous circumstances of position.

Cow yards and Hog pens.—These should be liberally supplied with mould and leaves from the woods, or mould of any kind, to act as absorbents of the liquid voidings of your cattle and hogs, and be converted into manure. Don't fancy that you have no time for hauling and spreading such materials—if you have but the *will*, time will come to your aid to carry out that will. Recollect that unless you provide food for your crops, stinted products must be the consequence, for the soil and the plants, stand just as much in need of eating, as do man and beast.

Late Corn.—Any late corn, which may not have received its last working, should be attended to without the least delay, and laid by with an open and clean soil, by aid of the cultivators and hoes—the plough should not be used now when the roots of the plants are coursing their way across every furrow, in search of food, and will not bear being torn asunder at this advanced period of their growth—every rending asunder of roots now, serves to decrease the formation of kernels.

Sheep.—This, let it be recollected, is one of the months during which the *fly* deposits its eggs in the nostrils of sheep,—and that those eggs are hatched therein, and produce the disease called *worms in the head*, which kill so many sheep. A little *prevention now*, will save you much labor and loss hereafter. For *each* sheep you may have, place in a trough, under cover, a gill of tar, sprinkle over the tar as many gills of *salt* as you have sheep. The sheep will resort to the trough daily, to lick the salt, and, in doing so, will daub their noses with the tar, and thus be provided with a preventive remedy against the fly. This strewing of tar and salt on the bottom of the trough, must be continued weekly for three or four weeks, when the period of danger will have been passed. If you value your sheep—and what good farmer is there that does not—see yourself, that the hand you entrust with this duty, faithfully performs it—and that a fresh supply of tar and salt, is weekly provided. To do it once, and not repeat it weekly, is just as bad as if it were not done at all.

Fallowing for wheat.—We have long been impressed with the belief, that many farmers delay sowing wheat too late, and to that circumstance, in part, may be ascribed the evils resulting from winter killing. If the seed be sown late, it is impossible that the roots of the wheat plant can attain that length and strength requisite to enable them to resist the upturning action of the frosts of spring—we say *spring*, because we believe that it is in spring months, during periods of alternate freezing and thawing, when the injury resulting from what is termed *winter* killing, is done. In ordinary winters, we are justified from personal observation in saying that such is the fact. Dread of the *Hessian Fly*, that curse said to have been entailed upon us by those mercenary legions, sold by two of the petty German principalities to George III. during the Revolution, have influenced many in postponing the period of sowing wheat. We are pleased, however, to observe the number of late seeders becoming less every year, and that wheat-growers are adopting the more philosophic view of the matter, in order that the plants may have time to throw out a protecting series of roots before frost sets in. *Apropos.* As the Mediterranean wheat is said to possess the property of resisting the fly, to a very great extent, and delights in early sowing, ought not this variety to be adopted to a greater extent?

Taking into view all the operating circumstances, we can see no good reason for delaying the commencement of seeding wheat beyond the 15th of September, and believe that it would be a judicious rule to finish by the 20th or 25th at farthest.

Seeding of Rye.—The earlier Rye is got in this month the better. We should not apprehend danger from its becoming too rank, because if it did, that is easily remedied, by turning the sheep upon it in the spring and eating it down. One of the largest yields of Rye on record, is mentioned by Mr. L'Hommedieu:—A neighbour of his manured 20 square rods of ground with four thousand manhaddan fish, and sowed it witn Rye. In the spring, it was twice successively eaten off close to the ground, by sheep breaking in, after it had acquired a height of nine inches the first time, and six the latter. These croppings, however, only served to make it grow thicker and stronger than before, and when harvested, it produced 16 bushels, or at the rate of one hundred and twenty eight bushels to the acre. We do not mention this isolated case of extreme yield, to encourage the hope that any thing like it could be raised on a large scale; but simply to show that *eating off* by sheep in the spring may be practiced without in the least endangering the yield of *kernel*, and that, therefore, the evil of rankness, and consequent lodging, may be obviated to the manifest advantage of the Rye-grower, because he may thus secure himself with pasturage for his sheep at a season of the year when provender is most needed. Green Rye, it is well known, as green food for stock, generally, and particularly for milch cows and suckling ewes, is valuable on two accounts—*first*, because it is among the earliest green food, and *secondly* because, from its succulent nature, it tends to encourage the secretion, and secures a generous flow of rich milk, making the first description of animals liberal contributors to the pail, and the latter most bountiful suckling mothers.

It may be worthy to make a passing remark upon the nature and quantity of the manure used in the production of the extraordinary yield of Rye to which we have alluded. The quantity of land on which the 4000 Manhaddan fish was applied, was 20 square rods, or 5445 square feet, so that there was nearly ¾ of a fish upon every square foot of ground, a quantity which we believe too large. We also believe, that if the Rye had not been twice successively eaten down, that though there might have been lots of straw, there would have been but very little grain. *Fish*, though esteemed a manure of short duration, is admitted to be powerful while it may last. Unfortunately there has been no very nice analyses made of fish, yet it must be admitted, if we are to form an opinion from analogy, that they contain gelatine, oil, the phosphate and carbonate of lime, and the phosphate of magnesia,—indeed nearly all the essential elements of vegetable food,—and we have often wondered, that the proprietors of landed estates bordering on the numerous bays and rivers of our country, did not more generally avail themselves of this resource to restore fertility to their too generally worn out soils. Having mentioned that fish is looked upon as a manure of short duration, we will remark, that we see nothing in its constituent elements of an evanescent nature except the gelatinous matter, which being soluble in water, is subject to easier decomposition.

The quantity of seed per acre is from 4 to 5 pecks of Rye.

Shrubbing, destruction of briars and weeds.—This is among the best months of the year for such work, and as it is so, let every farmer feel himself called upon by self respect, to destroy every thing of the kind upon his farm—let his fence corners and sides, pastures and meadows, be relieved at once, of these unsightly pests. As cut down or rooted up, have the whole put into piles, and when dry enough have them burnt.

Thrashing out Grain.—As soon as your grain will allow of it, set to work and have it got out, in order that you may avail yourself of the rise of the market should one occur, of disposing of your surplussage. Wheat growers on the Atlantic states, should be particular to place themselves in a position to anticipate the arrival of supplies from the west—there the crops have been unusually large, and as the vent through the Canadas have been closed by the recent Tariff bill of England. we may expect a much larger quantity than formerly to seek the markets of our own seaboard.

Prior to placing your grain in your *Granary*, have that thoroughly washed with *ley*, walls, ceiling and

floor, and then white-washed—and stop up every hole and crevice through which a rat or mouse might get his destructive carcass.

Turnips.—This root may be sowed up to the 10th instant. It should, however, have been sowed a fortnight ago.

Buckwheat.—Those who may have been hitherto prevented from doing so, may sow up to the 10th inst. with a fair prospect of its maturing its seed, and of affording a full supply of those delicious breakfast cakes, which make that meal in winter so desirable.

Stubble Fields.—A bushel of plaster, per acre, strewn over the stubble fields will encourage a fine growth of white clover, and thereby improve the soil for future culture.

Potatoes.—If the late Potatoes have not already received their last working, give it to them forthwith—let the furrow be flat at top, not rounding. Your ploughing done, strew over each acre of the Potatoes, a bushel of lime and salt, as a preventive against the potato rot—and by the way, you might, with decided advantage, add a bushel of soot, or ashes, to the mixture.

Clover stubbles, and young Clover fields.—These should each be treated to a bushel of plaster per acre.

Milch Cows.—As the season is coming on apace, when the pastures will be almost denuded of grass, the milch cows should receive messes in the barn yard of sufficient succulence to enable those necessary appendages to the homestead, to yield a goodly supply of milk. It should, therefore, have been your duty to have an acre or so in a lot contiguous to your cow yard, in broadcast corn, lucerne, or millet, to cut for them.

Salting of Stock.—See that your horses, mules, oxen, cows and young cattle receive a moderate allowance of salt at least twice a week. An equal quantity of salt and lime, the latter to be slaked, will answer as well as the salt by itself.

Serving of Cows and two year old Heifers.—Procure the best bull your neighborhood affords, and have your cows and two year old heifers served. By having this attended to now, these creatures will come in in next May, a time when your pastures will be in a condition to afford sufficient food to sustain the new claims, then to be made upon them. We have advised you to procure the services of the best bull in your neighborhood—and we will add, that by selecting a Durham, Devon, or Ayrshire, you will go far towards improving your stock, as calves from such a cross will be infinitely superior to any which could spring from native bulls, and will, therefore, be more valuable to you, should you design to raise them—and, if intended for the butcher, will bring you more money. So that, in whatever light we may view the subject, it must be apparent that your interest lies in doing as we advise you.

Having concluded our hints for the month, we will add our best wishes for your health and prosperity.

CAPONS.

A valued friend and correspondent in Prince George's Co. having asked for information in regard to the operation of making Capons, we applied to *Dr. J. W. Thompson*, of Wilmington, Del. to furnish the necessary instructions, he having recently performed the operation in this city—In answer thereto, the Dr. says:

"In reply to the request for me to furnish you with an article for your paper on the modus operandi of making capons,—I would do so with pleasure, but can refer you with more satisfaction to yourself and readers to a full and able article, with all the drawings, &c. in my friend Emerson's "American Farmer's Encyclopedia," under the article capon—it is the exact plan we practice upon here and New Jersey, and the one I operated upon at Mr. Guy's last winter, in the presence of Dr. Smith, Messrs. Guy, and others. Mr. Guy can tell you at what Cutler's the same instruments were made after my pattern, and Dr. Smith can demonstrate the operation to you practically.—The whole of Dr. *Emerson's* article, with the cuts, would be worthy of republication in the" Farmer"—In this vicinity and about Philadelphia, numbers of capons are now made, greatly enhancing the value of poultry and conducing very much to the luxury of the table."

In accordance with the suggestion of Dr. T. we have copied the article from the *Encyclopedia*, (a work by the by, which should be in the library of every farmer,) with drawings of the instruments, which we think our correspondent will find sufficiently explicit to enable him to perform the operation. The instruments, we believe can be obtained in this city, at the cost of about $3.

CAPON.—(Sax. capun; Fr. *chapon;* Lat. capo).

If cocks, when young, are emasculated, it has a prodigious effect upon their condition, and a similar effect may be produced upon young hens by the abstraction of their egg-bags. These operations have been practiced upon poultry from the earliest antiquity, for the purpose of improving the flesh. In England, it is chiefly practiced in the great poultry-breeding counties of Sussex, Essex and Berks, but it is little known any where else. There are, indeed, persons who make a great trade of it, and it is best to employ one of those when they can be had; but it is not uncommon for the poultry farmers' wives and daughters to acquire dexterity in performing the operation. This, indeed, seems to be no new thing, for Mascall, in his minute but very quaint directions, uses the feminine gender throughout. "To cut young cockrels," he says, "to make them capons, the time thereof to cut and carve them is soon after their dam has left them, or when they cry or pule no more after her, as when they begin to crowe and waxe hote to tread the pullets. The common way of cutting or carving is not to be dispraysed, and is most knowne as this waye: they take them in the morning, commonly in the wane of the moone, and laye the cocke in her lappe, upon the back, trussing his legges by his sides. Then the carver pluckes first awaye the feathers above the vent, and takes up the upper skin on the point of a needle, and slits it over-thwart an inche long, and then takes up the under thin skinne nexte the guts, and slits that lengthwise. Then the carver annoyntes her fore finger of her right hande with oyle or butter, and puts it gently to the raines

of the cock, on the left side, and with her finger brings forthe the stone. Then she annoyntes the fore finger of her left hande, and puts it into the stone on the right side of the cocke, and with her finger brings it forthe. So done, she placeth the guts, and sowes the skinne up again with a threade, and then annoyntes that place with some fresh butter, and lets him go."

The art of caponing fowls forms a part of rural economy, and as the mode of operating is very little understood in the United States, we propose giving such ample and minute instructions upon the subject as, with the aid of original drawings, will enable any one to succeed who possesses common dexterity.

The chickens intended for capons should be of the largest breed that can be obtained, and in the United States there is not perhaps one better suited in this respect than the celebrated large *Bucks' county breed*, well known in the Philadelphia market, where capons made from these fowls have been sold weighing 25 lbs. the pair. As in breeding with a special view to making capons, male chickens alone are required, those eggs should be selected to set under hens which produce males, namely, such as have the sharpest points. The alternation of the chicken into a capon will, in about a twelve-month, nearly double the size of the bird. Persons wishing to become expert in the operation of making capons would do well to imitate surgeons, who always try their hand upon dead subjects before performing on the living. It is, however, quite simple, and in France and Italy is often allotted to mere children.

The Chinese mode of operating we think preferable not only to the old one described by Mascall, but to any other of which we have ever heard.

Chickens intended for capons may be operated upon at any age, though when between two and three months old is considered much the best time. Old fowls seldom survive the operation. Previous to cutting, the chickens must be kept entirely from food, and even water, for about thirty-six hours, as experiments have determined this time to insure the best chance of success by causing the bowels to be empty and lessening the tendency to bleeding. The fowl may be secured either in the Chinese mode,—that is to say, lying on its left side with its wings folded back till they meet, and pressed under the foot of the operator, whose other foot is placed upon the legs;—or, it may be held by an assistant in a similar position; or, what adds greatly to the convenience of the operator, especially in relieving him from the necessity of stooping low, the fowl may be confined by straps, &c. to a table, one of which, of a highly ingenious construction, has been invented by a Philadelphian, and will be subsequently described and delineated. (See Figs. 2 and 3.)

The chicken being secured with its left side downwards, wings clasped behind its back, legs extended backwards, the upper one being drawn furthest back (see fig. 3), the head and neck left perfectly free, the feathers are next to be plucked from its right side near the hip joint, in a line between that and the shoulder joint; the space uncovered (*a*, fig. 3) may be a little over an inch square. Having first drawn the skin of the part backward, so that when left to itself after the operation, it will cover the wound in the flesh, make an incision with the bevel-edged knife, (fig. 1 *a*,) between the two last ribs, commencing about an inch from the back-bone, and extending obliquely downwards about an inch or inch and a half, just going deep enough to separate the ribs, and taking good care not to wound the intestines. A pair of broad blunt hooks (fig. 1, *c*, *c*) attached to a piece of elastic whalebone or ratan (*b*) about six inches long, are then applied, one hook to each side of the cut, and these being stretched apart by the spring bow, keep the wound open wide enough to give room to the operation. Then carefully cut open the skin covering the intestines, which last, if not sufficiently drawn up in consequence of the previous fasting, may be pushed forwards or towards the breast bone, by means of a flat instrument contrived for the purpose, or, what answers equally well, the handle of a teaspoon. When the testicles are exposed to view, they will be found to be connected with the back and sides by means of a thin skin which passes over them. This tender covering must be seized with the pincers, *a*, *a*, and torn open with the assistance of the sharp-edged hook *h*; after this, with the left hand, introduce the curved spoon under the lower or left testicle (which is generally a little nearer the rump than the right one): then take the tube *i*, and with the right hand pass the loop *n*, over the small hooked end of the spoon *h*, running it down under the spoon and included testicle, so as to bring the loop to act upon the part which fastens the testicle to the back. Then by drawing the ends of the hair-loop backwards and forwards, and at the same time pushing the lower end of the tube towards the rump of the chicken, the cord or fastening of the testicle is sawn off. The same process is to be followed with the uppermost or right testicle, after which the separated testicles, together with any blood in the bottom of the wound are to be scooped out with the crooked spoon. When performed properly, little or no blood of consequence is observed, neither does the fowl seem to experience any pain, after the first incision, but will eat if food be given to it. To enable the operator to produce the sawing movement, the hair or other ligature used may be tied in a knot so as to allow the index or fore finger of the operator's right hand to pass through it. This finger being then turned or rolled repeatedly from side to side, communicates to the loop below the sawing motion which contributes to cut off the testicle. The reason for cutting off the lower most testicle first, is to prevent the blood which may issue, from covering the remaining one, and rendering it difficult to be seen. After this operation, which, if skilfully performed, occupies very few minutes, the hooks are to be taken out, the skin drawn over the wound, and this covered with the feathers plucked off at the commencement of the operation. The chicken is then released, and as soon as let go will take grain or other food eagerly, and in a day or two be restored to its usual health. A person well skilled may operate on fifty chickens without killing more than one or two.

In some fowls the fore part of the thigh covers the last two ribs; in which case care must be taken to draw the fleshy part of the thigh well back, to prevent its being cut, as this might lame the fowl or even cause its death.

For ligatures nothing answers so well as that commonly employed by the Chinese, namely, the fibre of the cocoanut husk. This is rough, and makes a loop which saws off and separates the testicle very readily. The next best substance for this purpose is horse-hair. Experiments with fine wire, silk, silk-gut, &c. show that they are all inferior to cocoanut fibre and horse-hair.

Sometimes a portion of the testicles adheres and is left behind, in which case the fowls will not prove capons, as soon will be evident, and may be killed

for use as soon as the head begins to grow large and get red, and they show a disposition to chase the hens. The real capon will make itself known by the head remaining small, the comb and gills losing their bright redness and appearing withered; the feathers of the neck and tail will also grow longer. They should be kept to the age of fifteen or eighteen months, which will bring them in the spring and summer, when poultry is scarce and bears a high price. But they should not be killed near moulting time, as all poultry then is very inferior. The operation fails principally in consequence of the bursting of the skin which encloses the soft matter of the testicle, some of which remains in the bird.

Fowls of five or six months are less liable to have the testicles burst in the operation than younger ones, but they are also more apt to bleed to death than those of from two to four months old. As the large vessel that supplies the entrails with blood passes in the neighborhood of the testicles, there is danger that a young beginner may pierce this with the pointed instrument in taking off the skin of the *lower* testicle, in which case the chickens would die instantly. There are one or two smaller vessels to be avoided, which is very easy, as they are not difficult to be seen. If properly managed, no blood ever appears until a testicle is taken off: so that should any appear before that, the operator will know that he has done something wrong.

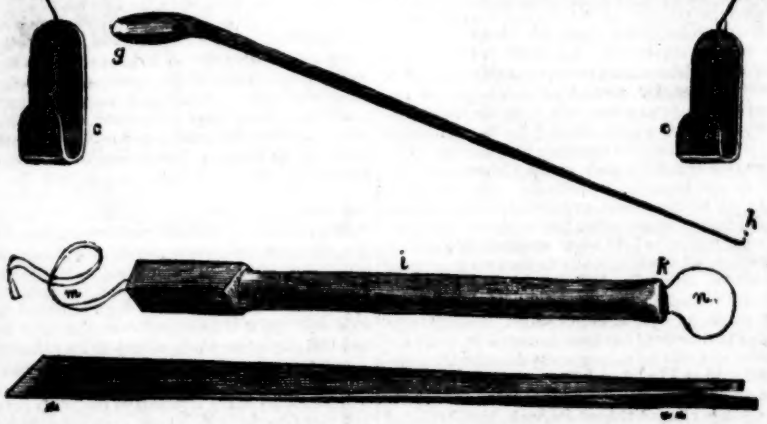
If a chicken die during the operation by bleeding, it is of course as proper for use as if bled to death by having its throat cut. They very seldom die after the operation unless they have received some internal injury, or the flesh of the thigh has been cut through, from not being drawn back from the last two ribs, where the incision is made; all of which accidents may be liable to occur with young practitioners.

Where the testicles are found very large, the silver tube may be too small for the operation; in this case a larger one made of small bamboo or elder, about 3-8 of an inch in diameter, may be substituted with a strong cocoanut string or ligature. But for chickens of small and medium sizes, the silver-tube, with a horse-hair in it, will answer perfectly well.

When a chicken has been cut, it is necessary, before letting it run, to put a permanent mark upon it; otherwise it would be impossible to distinguish it at first from others not operated on. Cutting off the outside or the inside toe of the left foot, will enable one to distinguish them at a distance. Another mode is to cut off the comb, then shave off the spurs close to the leg, and stick them upon the bleeding head, they will grow and become ornamental in the shape of a pair of horns. The last mode is perhaps the best, but it is not so simple and ready as the first. Whichever plan is adopted, the fowl should be marked before performing the operation.

Fig. 1, represents the instrument used in making capons, according to the Chinese method, reducing only about one-fourth their actual sizes.

Fig. 1



a, a knife which resembles that of a chisel with a bevel or slanting edge, half an inch in the greatest width; the other end or handle consists of two forcep blades terminating at *a*, *a*, in slender points, and forming spring forceps. The whole length from the cutting edge to the end of the pliers is about six inches.

c, *c*, two broad blunt hooks of silver or other metal, each half an inch in width and one and a half in length.

b, an elastic bow, six inches long, made of whalebone or ratan, about the thickness of a large quill, and split horizontally into two pieces. To the ends of this bow the broad hooks are attached by strong cords about half an inch long. At the end *d* the cord embraces only the lower half of the split bow, whilst both pieces are included in the string, at the end *e*.

f, is a small ring which encircles both portions of the bow. When the hooks are first put in and only half the strength of the bow is required to act upon them, this ring is slipped to the end *e*. But if the whole strength of the bow is needed to force the hooks apart and stretch the wound open, the ring is passed towards the end *d*. Thus, by means of the split bow and sliding ring, the strain upon the hooks can be increased or slackened at pleasure.

i, a tube of silver or other metal three or four inches long, made square at the upper, and flattened at the lower end *k*, to the width of three-tenths of an inch; this tube is for the purpose of passing the fibre or hair ligature *m*, forming the loop *n*.

g, a narrow curved spoon, the slender handle of which tapers off and has a steel point fitted into it, furnished at the extremity with a very small hook, *h*; the inner edge of this hook is sometimes sharpened.

It may be well to give warning against becoming dissatisfied with the instruments. A raw hand, when he meets with difficulties, is apt to think the tools are in fault, and sets about to improve them and invent others; but it may be only himself that lacks skill, which practice alone can give. Those who have devoted much time and attention to the subject say that they have found the old Chinese instruments, a drawing of which is given in Fig. 1, preferable to all others.

In addition to these instruments, a regular Chinese set contains a flat kind of spatula, something like the upper part of a spoon-handle. This is about 4 inches long and half an inch wide, and slightly curved at each end in opposite directions. It is for the purpose of pushing the intestines out of the way, an office very well performed by the handle of a teaspoon.

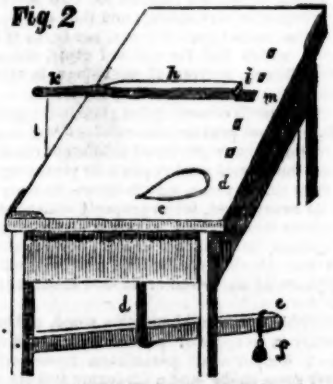
It is very common, after the operation, and whilst the wound is healing, for the side to puff out with a windy swelling. This may be relieved by making a small incision or puncture in the skin, which will let the wind escape.

These fowls make the finest capons which are hatched early in the spring; as they can be cut before the hot weather comes, which is a great advantage.

The operator should not be discouraged with the first difficulties; for with practice they will disappear; every year's experience will render one more expert, until the cutting of a dozen fowls before breakfast will be a small matter.

The *operating table* contrived in Philadelphia, and before referred to, is represented in the following cut, fig. 2.

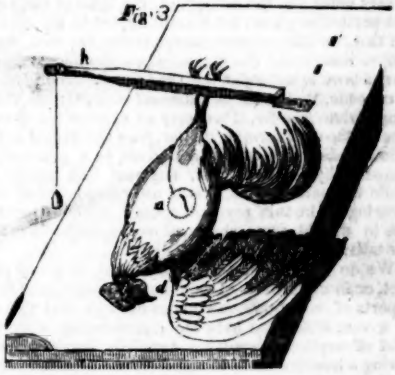
Fig. 2



This table may be about 2½ feet long by 1½ feet wide, and 2½ feet high. At two of its corners it can have a raised moulding about ¼ an inch high, extending along the sides six or nine inches, for the purpose of placing the instrument at one corner and at the other some of the feathers under a stone, to keep them from being blown away. On one side there is a slit *c* passing through the table, about 1¾ inch long by ¼ an inch wide, running diagonally; being about three inches from the end and 6½ from the side. Through this slit the padded band or soft list, *d*, *d*, for confining the wings, passes below to be attached to the lever *e*. This lever has a 4 or 5 lb. weight hung to it, and works on a screw or pin, by which it is attached to the leg. When not in use the lever rests on a pin or ledge in the other leg. On being led down, the attached band clasps the wings of the chicken lying on the table, with greater or less force as the weight is drawn to or from the end of the lever, *h*, upon the table, the object of which is to hold down the legs as these are extended backwards. This lever is padded beneath, and is furnished with a hinge at *i*, which admits of being raised at the end *k*; it projects beyond the edge of the table, and has also a 5 lb. weight suspended by the string *l*, which increases or diminishes the pressure by being moved to or from the table. Through one portion of the hinge an iron screw, *m*, passes beneath the table where the end is secured by a nut. This screw or pin allows the lever to move sidewise, whilst the hinge admits of its being raised or let down. A range of holes, about half an inch wide, are made through the table to receive the pin of the lever, as this has to be placed nearer or further from the slit *c*, according to the size of the chicken. The first hole is about eleven inches from the nearest end; the second, fourteen inches; the third seventeen inches. The last is adapted to very large cocks or even turkeys.

In fig. 3, the position of the fowl when secured, lying upon its left side upon the table, is represented, *d*, being the wing band, *h*, the lever placed over the legs, and *a* the place where the incision is made.

Fig. 3



The table is a refinement in the art of caponing which we believe is altogether new, notwithstanding the thousands of years which have elapsed since the operation has been habitually practiced. The difficulty of making a subject, apparently simple, well understood by persons to whom it is entirely new, is, we think, a sufficient apology for the length of the details given.

In France and other countries, besides furnishing a luxurious food, capons are made useful in taking care of broods of young chickens, ducklings, turkeys, and pheasants, which they are said to do better than hens, owing to their larger size and thicker coats of feathers. The moment the chickens are hatched they are taken from the hens and given to a capon, who rears them with all the care of a parent, often having a small bell attached to his neck, the tinkling of which serves the purpose of keeping the brood about him, similar to clucking and maternal sounds of the mother. Should he show a disposition to treat the young chickens roughly at first, he may be confined alone for a day or two in a dark place, after which if they be put with him he will be pleased

with company and continue to take care of them. The hen is cooped, and well fed until she regains the flesh and strength lost whilst setting, and then turned out to lay again. In this way the poulterer is enabled to raise a large number of chickens from a few hens. The capon generally brings double or treble the price of common poultry.

For the American Farmer.

TO THE YOUNG FARMERS OF MARYLAND.

ON PRACTICAL AGRICULTURE.

Conclusion of ESSAY No. 2.

MEADOWS AND GRASSES.

Some among the many readers of the American Farmer, may probably remember, and a few may even be induced to refer to, our second paper, in the September number of last year, on the subject of MEADOWS and GRASSES.

The views then briefly expressed, we have had no cause, subsequently, to suppose incorrect; but on the contrary, they have been borne out by our more recent experience and practice. Those remarks were chiefly confined to TIMOTHY, (known in Europe, where it is indigenous, as the *Meadow cat's tail*: in the Eastern states, confused with the common name of the *red top*, as *Herds-grass*, and to botanists, the *Phleum pratense*,) and we are aware that doctors widely differ on the subject of the time of cutting this particular grass; but we still adhere to the opinion that, for all purposes except saving the seed, the proper time to cut *timothy*, is when the bloom has turned brown, and *before* the seed *ripens*. We readily concede, that so far as *nutriment* is concerned, the progressive *transfer*, if we may so express the process of the seed forming matter, *from* the *stalk* of any culmiferous plant to the *seed*, does, as a generally known physiological rule, augment this quality; while we maintain the almost utter impossibility of securing it in this particular stage, without much loss in weight, from shattered seeds, broken heads (or tails?) and brittleness of foliage.

We do not question the correctness, in point of fact, or in uniformity, of the numerous experiments; reports of which are now under our eye; but there is a vast difference between *experimenting*, with a *rood* of anything vegetable, carefully handled, and saving a hundred acres of crop. And this is the reason why *experiments*, as usually conducted, are lighter than mere theory, and perfectly useless to the practical husbandman.

Upon one point there is no division of opinion, and its application to all perennial grasses is too apparent to be overlooked—that is, the *maturing*, or even the *forming*, of three or four successive crops of *seed*, must cause a vast degree of exhaustion to the soil, over that consequent upon the successive annual removal as from meadows, of only the green crop. As regards the *palatableness* of hay—and we are sure, without being *gastronomes*, the *genera bos* and *equine*, possesses the nicest possible *taste* in matters edible; which should measurably be consulted—an *ass*, between two burdens, (of hay) would prefer the green cured hay to the dry *straw*, for it is nothing more—of the matured seed stalk.

With these arguments negative, somewhat in conflict with book opinions, we shall leave *timothy* in *particular*, and proceed to notice the other grasses known among us, in general.

Orchard Grass.—This species of meadow grass is indigenous, as its name of *American cocks-foot*, implies, —from the form of the *head*, and not the *tufted root*—and comes under the class *Dactylis glomerata*, from the peculiar conformation of its many tufted *base*.

Orchard grass has been long underrated, or, perhaps we should say, not duly estimated as a hay grass —and however much in error we may appear to be, after adducing our reasons for this wide assertion, our sincerity, at least, will not be questioned, when we say, the land we cultivate, with but a trifling exception, is better adapted to *timothy*. The two prominent objections urged against the more extensive growth of this native grass, are its coarseness and habit of growing in tufts—The cure of the one acts as a preventive of the other—Sow plenty of seed on rich, loamy soil, say two bushels and a peck to the acre; if with grain in the spring, the proper season—*after* the grain has been cross-harrowed in, but *before* it is *rolled*—one rolling, *with the lands*, will then be sufficient for both grain and grass seed.

Our objections to *bushing*, and harrowing grass or fine seeds in, are, that if covered at all by the former plan, these are dragged into stripes; and with the latter, they are covered too deeply. If the surface of a proposed meadow, be not sufficiently smooth for the roller to press every foot, it is not sufficiently pulverized, or is too uneven for a meadow. One fourth in weight, of the hay, is lost, by an uneven surface, to the scythe.

We have before stated our opinion of mixing grass seeds, when setting a meadow—with a pasture, it is a matter of indifference, comparatively. But the same objections as regards *timothy*, do not hold with a mixture of orchard grass and red clover (*Trifolium pratense*). The orchard grass is perennial, while, under ordinary circumstances, the clover is but biennial; it affords a good protection to the young roots of orchard grass, which are delicate for two years, unless the ground be very strong; and they can be harvested at the same time—we say, *can be*, as in fact, the clover, which like the orchard grass, should be cut in full bloom, arrives at that stage, in this climate, at least a week sooner than the latter.

Our experiments of sowing this grass in the summer and fall, have not proven successful—a wet season, last year, might have produced a different result.

Among the several good reasons for preferring this grass after timothy, we may mention its early maturing, its heavy yield, when properly set and saved; its sweetness when grown thickly and cured green. As a pasture it is incomparable, for rapidity of growth and durability. Besides which, it will last twenty years, if harrowed or flooded triennially and rolled.

It flourishes quite well beneath a wood, and grows luxuriantly in an apple or peach orchard and under the black walnut and persimmon trees—indeed, wherever some shade and a fat loamy soil are combined.

The *Tall Meadow Oat-Grass*—(arena elatior,) is a native of Europe, and is chiefly valuable as a pasture, being of early, late and rapid growth. But it is inferior in every respect to the orchard grass, and almost worthless as hay, compared with many other grasses. One or two reasons may be given for cultivating it in some positions—It will thrive better than orchard-grass, on a thin upland soil, and will form a soft, pale green sod, beneath a thick growth of wood.

When cultivated as a meadow, it should be set with red clover—two bushels of oat-grass seed, and eight pounds of clover seed to the acre, lightly harrowed in and rolled afterward. It should be cut as soon as the first blossom appears, and cured rapidly;

spring is the proper season, and with grain will answer.

Common *Red-top*, or *herds-grass*, (Agrostis vulgaris) is indigenous to this and a more southern latitude, —and perennial—but in our humble opinion, it should only be tolerated from whence it cannot be *exterminated*, as a *hay*-grass, for it is only where it springs naturally that it yields heavily, and then one ton and a half is the ordinary average—as a pasture it is valuable; having a close, tender growth near the root, and not being easily destroyed by the hoof—a low moist soil is its natural selection. It is a great enemy to cultivated grasses—especially to timothy, and with the exception of the Maryland blue-grass, which propagates from layers and the roots, we know no more difficulty subdued enemy, to an artificially set meadow.

Some farmers maintain that it is preferable to have the *spaces* between the timothy roots filled with red-top; we prefer, however, the *absence of spaces*.

Clover, the common-red, is so well known, and we may hope, so extensively grown as an ameliorator, if not positive fertilizer, and not being strictly a grass, we shall merely advert to, in its necessary connection with some of the grasses—as a hay, except for horned cattle, we do not value it. It is difficult to save when alone; brittle when saved green; worthless entirely, when in seed, and injurious to other grasses grown with it. The second crop is neither so good as hay, nor for pasturage, as the first—Independent of its invaluable fertilizing properties, clover is chiefly to be grown as early pasturage, for dairy purposes, for which, when stall feeding is combined with it, it is very valuable.

All leguminous plants being tap rooted and broad-leaved, draw much of their nourishment from the subsoil and atmosphere, and are consequently, less exhausting than the culmiferous, or jointed grasses and grains, even when the former are left for the seed to ripen.

We have been confining our remarks almost exclusively to meadows, as contradistinguished from pastures, and we mean to confine these last words to the same limit, by stating that our experience convinces us a combination of the two is incompatible. This year a meadow, and next season a pasture, *may* answer, but both the same season, except in peculiar situations and remarkably wet seasons, is a ruinous plan in this climate.

If very wet, many roots are trodden in by the hoof —if very dry, they are knocked off; and indeed in all conditions of the soil, depasturing meadows is more or less injurious. When, owing to a wet season, the after-math, or rowan, of timothy, is too luxuriant, and there be danger of smothered roots or harbored vermin, let the cattle on for two hours each day, in the morning, until eaten sufficiently close; but never turn them on after the 1st of October.

Orchard Grass may frequently be cut twice, and we have known three crops to be taken off the same season, and we think it better, when it is sufficiently tall, to cut than to pasture it, if it be designed to preserve it as a hay meadow. The same principles apply to all grasses which shoot up a second time the same season.

All meadows should be harrowed at least once in two years, to remove the moss formed on, and to loosen the surface. They should immediately afterwards be top-dressed with ashes and rolled. The spring is the proper season for these operations.

Having become rather sententious and dogmatical, we will conclude, with renewed assurances of our desire to receive as well as impart information.

Yours, truly, CINCINNATUS.

ANALYSES OF INDIAN CORN.

To the Editor of the American Farmer.

SIR.—In the last number of your valuable publication I find doubts entertained respecting the purposes for which the materials composing Indian corn are designed. The analyses of all the most distinguished Professors of Organic chemistry tally so far as we may suppose differences to exist in the specimens under their inspection, for there can be no doubt but that climate and latitude affect this grain as they affect all others. But I subscribe to your opinion that the true theory of the use of starch has not been satisfactorily shewn. However easy it is to admit that the compounds of *proteine* are more especially nutritive in the sense of forming muscle and nerve, or that the oleaginous matter is deposited in the shape of fat, yet that the farina is intended solely for producing heat remains open to objection. In addressing to you this communication, allow me to advert to a pamphlet on the subject which I presented to the National Institute at their last meeting in Washington, in which I took a totally different view, and which I hope to establish at some future time: namely, that the non-nitrogenous products of all grains develope electricity or nervous excitement by their decomposition in the blood—to use your own words, that they "support the powers of vitaility," that they "exert a healthful and sustaining part." The fashionable doctrines of the day represent 81 per cent. of the mass next to useless as far as health or strength is concerned, whereas I am disposed to believe that the functions of the different organs depend upon the consumption of those ingredients—in other words, that animal heat results from the deposition of tissues or the change of blood from the venous to the arterial consistence, and that animal enervation is an effect of the disintegration of tissues, or the change of blood from the arterial to the venous character.

As I subscribe to your paper, I have learned to doubt speculations on mere theoretical husbandry, and my own experience on a small farm which engrosses most of my time and attention has satisfied me that too little importance is attached to the use of vegetable, and I may may add, perhaps, animal manures by the School of Liebig: not that they unduly extol the qualifications of mineral composts or the inorganic constituents of the soil, but that they underrate the value of organic food for plants. One would suppose from their writings that the carbonic acid of the atmosphere supplied all that is necessary for the formation of woody fibre, and that so inexhaustible a resource of carbon rendered the barnyard heap a secondary consideration. What say practical farmers, I mean such as unite science with art? That no substitute, in the strict sense of the term, can be admitted—that to neglect this element of agriculture is to invite loss of money and loss of professional character. The error I think lies in supposing that organic matter is all reduced to carbonic acid, ammonia and water, before it can be taken up by the spongioles of the roots; and that consequently if the earth around the roots is well stirred so as to enable it freely to absorb the gases specified, the object is at once attained.

If these few suggestions are worthy of your acceptance, they are presented by one who is enthusiastically in favor of the cause you advocate.

ROBERT SERREL WOOD.

Mount Herman, near Washington, D. C.

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100 bushels of strawberries were sold in Cincinnati in one day.

[From Browne's Sylva Americana; or Forest Trees of U. S.]

BLACK OR QUERCITRON OAK.

Quercus tinctoria.

Fig. 1. *A leaf.* *Fig.* 2. *The Fruit.*

Except in the state of Maine, the northern part of New Hampshire, Vermont and Tennessee, this species is found throughout the United States on both sides of the Alleghanies, and is every where called *Black Oak*, except in some parts of New England, where it is called *Yellow Oak*. It is more abundant in the Middle States, and in the upper parts of the Carolinas and Georgia, than on the southern coast. It flourishes in a poorer soil than the white oak. In Maryland and certain districts of Virginia, where the soil is lean, gravelly and uneven, it is constantly united in the forests with the scarlet, Spanish and post oaks, and mockernut hickory, with which the yellow pine is also frequently mingled. There are several varieties of this species of oak, all of which afford the quercitron bark, so highly esteemed in dyeing, staining, tanning, etc.

This oak is one of the loftiest trees of the American forests, being 80 or 90 feet high and 4 or 5 feet in diameter. The trunk is covered with a deeply furrowed bark of middling thickness, and generally of a black or very deep brown color, whence probably is derived the name of *Black Oak*. North-east of Pennsylvania the complexion of the bark is the only character by which it can be distinguished from the red, scarlet and gray oaks, when the leaves are fallen. Further south this character is not sufficient to distinguish it from the Spanish oak, whose bark is of the same color, and recourse must be had to the buds, which on the black oak are longer, more acuminate, and more scaly. All doubt may be removed by chewing a bit of the cellular integument of each: that of the black oak is very bitter and gives a yellow tinge to the saliva, which is not the case with the other. The leaves are large, deeply laciniated, and divided into four or five lobes: they resemble those of the scarlet oak, but have less deep and open sinuses, are less shining, of a duller green, and in the spring and during a part of the summer have their surface roughened with small glands which are sensible to the eye and to the touch. The same appearance is observed on the young shoots, the leaves which change in the autumn to a dull red, and those of the old trees to yellow, beginning with the petiole. This tree fructifies once in two years, and its flowers put forth in May. The acorns generally grow in clusters, and are of a brown color, sub-sessile and about half buried in a thick, scaly cup. This species is more remarkable than any other for producing the oak apple.

The wood is reddish and coarse-grained, with empty pores; it is, however, more esteemed for strength and durability than that of biennial fructification. As it is abundant in the Middle and Northern States, it furnishes a large proportion of the *red oak staves* exported to the West Indies, or employed at home to contain flour, salted provisions and molasses. It is said to furnish the best of fuel except the hickories. The bark is extensively used in tanning, as it is easily procured and is rich in tannin. The only inconvenience which attends it is imparting a yellow color to the leather, which must be discharged by a particular process, to prevent its staining the stockings: it is a great error to assert that this color augments its value. From the cellular integument of the black oak is obtained the *quercitron*, of which great use is made in dying wool, silk and paper hangings. This substance was the first prepared as a dye by Dr. Bancroft; he gives it the name of *quercitron*, by which it is now universally recognised.

Before extracting the color from the bark, the epidermis, or external covering, ought to be removed by shaving. The remaining parts being properly ground by mill stones, separate partly into a light, fine powder, and partly into stringy filaments or fibres, which last yield but about half as much color as the powder, and therefore care should be always taken to employ both together, and as nearly as possible in their natural proportions, otherwise the quantity of color produced may either greatly exceed or fall short of what may be expected. The quercitron thus prepared and proportioned, says Dr. Bancroft, will generally use as much color as eight or ten times its weight of the weld plant, and about four times as much as its weight of the chipped fustic. The coloring matter, continues he, most nearly resembles that of the weld plant; with this advantage, however, that it is capable alone of producing more cheaply all, or very nearly all, the effects of every other yellow dyeing drug; and, moreover, some effects which are not attainable by any other means yet known. The coloring matter of quercitron readily dissolves in water, even at a blood heat. If the infusion be strained and left at rest, a quantity of resinous matter subsides in the form of a whitish powder, which produces the same effect in dying as the part remaining in solution. The clear effusion being evaporated and dried, affords an extract equal in weight to about one twelfth of the bark from which it is obtained. Much care, however, must be employed in procuring this extract, so as to make it produce colors equal in beauty to those obtained directly from the bark itself. If the evaporation be carried on rapidly, and the heat be too great, the color is tarnished, probably, as Dr. Bancroft conjectures, from the absorption of oxygen, the color thus undergoing a sort of semi-combustion. On the other hand, if the evaporation be conducted too slowly, the coloring matter suffers another change, and soon spoils by keeping. The decoction of quercitron is of a yellowish-brown color, which is darkened by alkalies, and brightened by acids. A solu-

tion of alum being added to it, separates a small portion of the coloring matter, which subsides in the form of a deep yellow precipitate. The solutions of tin produce a more copious precipitate, and of a beautiful, lively, yellow color. Sulphate of iron causes a copious olive precipitate; sulphate of copper, a yellow of an orange cast. To dye wool, it is sufficient to boil the quercitron with an equal weight of alum: in dipping the stuff the deepest shade is given first, and afterwards the straw color: to enliven the tint the stuff may be passed, in coming out of the dye through water whitened with a small portion of chalk: but a brighter color is obtained by means of solution of tin. Quercitron may be substituted for wood, in imparting all the shades of yellow to silk. It is highly valuable as an article of commerce, which has often been sold at $40 or $50 a ton. Large quantities are annually exported into Europe from the ports of the Middle States.

The process of barking is, in general, well understood. The harvesting of the bark is of the greatest importance, for if it be suffered to heat or ferment, it loses its color, becomes mouldy and of little value. The best mode is to make what the foresters term temporary lofts of about two feet in width, and of a length sufficient to hold a day's peeling of bark. These lofts are formed by driving forked stakes into the ground for bearers, about three feet in height in the back row, and two and a half feet in the front; a sloping floor is then constructed by laying loppings between the forks of the bearers. The bark is then placed on the sloping floor with the thick ends towards the top or higher side, the smaller bark is laid on to the depth of six or ten inches, and the broad pieces placed over the whole as a covering to carry off the wet, should rain happen before the bark is sufficiently dry to be stacked. In three or four days it should be turned to prevent heating or moulding, and in ten days, more or less, it will be sufficiently dry to be stacked until wanted for the tanner. In order to prevent fermenting, when stacked, the width of the pile should not exceed eight feet. The roof should be formed and thatched as a corn or hay stack.

Simple Method of Filtering.—The waters of the Wangho and Yang-tse-kiang, in China, are highly surcharged with mud, the former containing one-seventeenth part, and the latter one ninety-sixth of earth. This renders them both unpleasant and unwholesome to drink. Cunningham, the writer, informs us that the Chinese have adopted a very simple remedy for this evil, which it behooves any one who may chance to visit muddy streams, to remember. Into about a quart of water they throw a small pinch of alum, leaving it to stand a few minutes; it becomes as clear as chrystal, a considerable sediment being found at the bottom. The poorest fisherman is always provided for this necessary purpose.

To Cure a Stifled Horse.—Take one gallon of urine and put therein a small handful of junk tobacco, boil down to one quart; then add two ounces of the oil of spike, one ounce of the oil of amber, two spoonsful of spirits of turpentine, and two spoonfuls of honey put into a jug, and cork it tight for use.

Process of Application.—Rub the stifle bone hard with the mixture fifteen or twenty minutes; then dry it in thoroughly with a red hot fire-shovel, then ride the horse forth and back one hundred rods.—Repeat the above two or three times, and the cure will be effected.—*Am. Agriculturist.*

PINUS.

Monœcia Monadelphia. Linn. Coniferæ. Juss.
Expectorant, secernant, stimulant.
Long-Leaved Pine. *Pinus australis.*

Fig. 1. *A leaf.* *Fig.* 2. *A cone.* *Fig.* 3. *A seed.*

This invaluable tree is known both in the countries which produce it, and in those to which it is exported by different names: in the first it is called *Long-Leaved Pine, Yellow Pine, Pitch Pine,* and *Broom Pine:* in the Northern States, *Southern* and *Red Pine:* and in England and the West Indies, *Georgia Pitch Pine.* We have preferred the first denomination, because this species has longer leaves than any other eastward of the Mississippi, and because the names of *Yellow Pine* and *Pitch Pine,* which are more commonly employed, serve in the Middle States to designate two species entirely distinct and extensively diffused. Towards the north this tree first makes its appearance near Norfolk in Virginia, where the *pine-barrens* begin. It seems to be especially assigned to dry, sandy soils, and it is found without interruption in the lower parts of the Carolinas, Georgia and the Floridas, over a tract of more than 100 miles broad from the sea towards the mountains of the Carolinas and Georgia.

The mean stature of the long-leaved pine, is 60 or 70 feet, with an uniform diameter of 15 or 20 inches for two thirds of this height. Some stocks, favored by local circumstances, attain much larger dimensions, particularly in East Florida. The bark is somewhat furrowed, and the epidermis detaches itself in thin transparent sheets. The leaves are about a foot long, of a beautiful brilliant green, united to the number of three in the same sheath, and collected in bunches at the extremity of the branches: they are longer and more numerous on the young stocks. The buds are very large, white, fringed, and not resinous. The bloom takes place in April; the male flowers form masses of divergent violet-colored aments about two inches long; in drying they shed great quantities of yellowish pollen, which is diffused by the wind and forms a momentary covering on the surface of the land and water. The cones are very large, being seven or eight inches long, and four inches thick when open, and are armed with small retorted spines. In the fruitful year they are ripe about the middle of October, and shed their seeds

the same month. The kernel is of an agreeable taste, and is contained in a thin, white shell, surmounted by a membrane; in every other species of American pine the shell is black.

The wood of this tree contains but little sap; trees fifteen inches in diameter three feet from the ground frequently have ten inches of heart. Many stocks of this size are felled for commerce, and none are received for exportation of which the heart is not ten inches in diameter when squared. The concentric circles in a trunk fully developed are close and at equal distances, and the resinous matter, which is abundant, is more uniformly distributed than in the other species; hence the wood is stronger, more compact and more durable: it is, besides, fine-grained, and susceptible of a bright polish. These advantages give it a preference to every other pine; but its quality is modified by the nature of the soil in which it grows. In the vicinity of the sea, where only a thin layer of mould reposes upon the sand, it is more resinous than where the mould is five or six inches thick; the stocks that grow upon the first mentioned soil are called *Pitch Pine*, and the others *Yellow Pine*, as if they were distinct species. This wood subserves a great variety of uses in the Carolinas, Georgia and the Floridas: four-fifths of the houses are built of it, except of the roof, which is covered with the shingles of the cypress; but in the country the roof is also of pine, and is renewed after fifteen or eighteen years. A vast consumption takes place for the inclosure of cultivated fields. In naval architecture this is the most esteemed of the pines: in the Southern States, the keel, the beams, the side planks and the pins by which they are attached to the ribs, are of this tree. For the deck it is preferred to the true yellow pine. In certain soils this wood contracts a reddish hue, and it is for that reason known in the dock yards of the Northern States by the name of *Red Pine*. Wood of this tint is considered best, and in the opinion of some shipwrights it is more durable on the sides of vessels, and least liable to injury from worms, than the oak. The value of this tree does not reside exclusively in its wood: it supplies nearly all the resinous matter used in the United States in ship building, and a large residue for exportation to the West Indies and Europe.

The resinous product of the pine is of six sorts, namely, turpentine, scrapings, spirits of turpentine, rosin, tar and pitch. The last two are delivered in their natural state; the others are modified by the agency of fire in certain modes of preparation. More particularly, turpentine is the sap of the tree obtained by making incisions in its trunk. It begins to distil about the middle of March, when the circulation commences, and flows with increasing abundance as the weather becomes warmer, so that July and August are the most productive months. When the circulation is abated by the chills of Autumn, the operation is discontinued, and the remainder of the year is occupied in preparatory labors for the following season, which consist, first, in making the *boxes*. This is done in January and February: in the base of each tree, about three or four inches from the ground, and of preference on the south side, a cavity is formed, commonly of the capacity of three pints, but proportioned to the size of the trunk, of which it should occupy one fourth of the diameter; on stocks of more than six feet in circumference, two, and sometimes four, *boxes* are made on opposite sides. Next comes the *raking*, or the clearing the ground at the foot of the trees from leaves and herbage, by which means they are secured from the fires that are often kindled in the woods by the carelessness of travellers and wagoners. If the flames gain the *boxes* already impregnated with turpentine, they are rendered useless, and others must be made. *Notching* is merely making at the sides of the box two oblique gutters, about three inches long, to conduct into it the sap that exudes from the edges of the wound. In the interval of a fortnight, which is employed in this operation, the first boxes become filled with sap. A wooden shovel is used to transfer it to pails, which in turn are emptied into casks at convenient distances. To increase the product, the upper edge of the box is chipped once a week, the bark and a portion of the alburnum being removed to the depth of four concentric circles. The turpentine thus procured is the best, and is called *pure dipping*. The *chippings* extend the first year a foot above the box, and as the distance increases, the operation is more frequently repeated, to remove the sap coagulated on the surface of the wound. The closing of the pores, occasioned by continued rains, exacts the same remedy; and it is remarked that the produce is less abundant in moist and cool seasons. After five or six years the tree is abandoned; the upper edge of the wound becomes cicatrized, but the bark is never restored sufficiently for the renewal of the process. The *scraping* is a coating of sap which becomes solid before it reaches the boxes, and which is taken off in the fall and added to the last runnings. Large quantities of spirits of turpentine are made in North Carolina: it is obtained by distilling the turpentine in large copper retorts, which are of an imperfect shape, being so narrow at the mouth as to retard the operation. Six barrels of turpentine are said to afford thirty gallons of the spirit. All the tar of the Southern States is made from dead wood of the long-leaved pine, consisting of trees prostrated by time or by the fire, of the summits of those that are felled for timber, and of limbs broken off by the ice which sometimes overloads the leaves. It is worthy of remark that the branches of resinous trees consist almost wholly of *wood*, of which the organization is even more perfect than in the body of the tree. As soon as vegetation ceases in any part of the tree, its consistence speedily changes; the sap decays, and the heart, already impregnated with resinous juice, becomes surcharged to such a degree as to double its weight in a year: the accumulation is said to be much greater after four or five years. To procure the tar, a *kiln* is formed in a part of the forest abounding in dead wood: this is first collected, deprived of the sap, and cut into billets two or three feet long and about three inches thick. The next step is to prepare a place for piling it: for this purpose a circular mound is raised, slightly declining from the circumference to the centre, and surrounded with a shallow ditch. The diameter of the pile is proportioned to the quantity of wood which it is to receive: to obtain one hundred barrels of tar, it should be eighteen or twenty feet wide. In the middle is a hole with a conduit leading to the ditch, in which is formed a receptacle for the resin as it flows out. Upon the surface of the mound, beaten hard and coated with clay, the wood is laid round in a circle like rays. The pile, when finished, may be compared to a cone truncated at two-thirds of its height and reversed, being twenty feet in diameter below, twenty-five or thirty feet above, and ten or twelve feet high. It is then strewed with pine leaves, covered with earth, and contained at the sides with a slight cincture of wood. The covering is necessary

in order that the fire kindled at the top may penetrate to the bottom with a slow and gradual combustion: if the whole mass was rapidly inflamed, the operation would fail and the labor in part be lost: in fine, nearly the same precautions are exacted in the process as are observed in making charcoal. A kiln which is to afford one hundred or one hundred and thirty barrels of tar, is eight or nine days in burning. As the tar flows off into the ditch, it is emptied into casks of thirty gallons, which are made of the same species of wood. *Pitch* is tar reduced by evaporation: it should not be diminished beyond half its bulk to be of a good quality.

ADDRESS,

Before the HENRICO AGRICULTURAL AND HORTICULTURAL SOCIETY, (Va.) delivered on the 5th Nov. 1845, by GEN. WM. H. RICHARDSON, President.

GENTLEMEN OF THE SOCIETY,—

I am guilty of no mock modesty in saying that I feel most painfully how unequal I am to the task which my colleagues of the Executive Committee have called upon me to perform. It has been said that there is but one step from the sublime to the ridiculous, and when the Committee accepted an apology from one of the most distinguished gentlemen and orators of the day, [*Gov. McDowell,*] who had been expected to address the Society at this time, and turned to me as a substitute, I could not but feel that they had taken that very step.

I shall hope, however, for the indulgence never denied to one who does his best, and the more confidently, because as you cannot expect much you will not be greatly disappointed.

Agricultural Addresses, like Fourth of July Orations, have become so frequent, that little can be added to what has been already said on the subject, and therefore, leaving the general field which has been so fully occupied, and touching briefly two subjects only, of primary importance to the agricultural interests of the whole State—I shall confine my remarks to that of our County—to the laboring class of her farmers, and to the mechanics of the City of Richmond, many of whom are active and zealous members of this Society.

The first subject of general importance seems to me to be, the establishment of Agricultural Schools—not one or two only, but as many as may be practicable, so as to bring that means of instruction within the reach of as many farmers' sons as possible. The permanent annual appropiation to the Primary Schools of the State is $45,000—and though the existing system has been devised and its operation directed with untiring energy and perseverance by one of the ablest officers of the State, and is no doubt as perfect as it can be made, yet operating upon a sparse population, occupying a vast extent of territory, it is believed that the benefits have not been commensurate with the expenditure, and that the wisdom of man cannot devise a system by which this, or any other expenditure similarly applied, can be made available to a population located as is that of Virginia.

It is said of the distinguished Fellenberg that "he believed it important to collect in one Institution the poor and rich, each with their appropriate means of improvement. He considered it of high importance to make agriculture the basis of such an Institution. He regarded it as the employment best of all adapted to invigorate the body: but he also believed that by elevating Agriculture from a mere handicraft to an art founded upon scientific principles and leading directly to the operations of the Great First Cause, it would become a pursuit peculiarly fitted to elevate and purify the mind, and serve as the basis of improvement to the laboring classes and to society at large."

It is well known that a large portion of our people are unable to educate their families, and that there are within the bounds of this declining Mother of Statesmen and Heroes, 60,000 of her children who can neither read nor write. Is her present policy adequate to the correction of this great evil? Few believe that it is; and without presuming to suppose for a moment that I am capable of devising a better, I trust I shall be pardoned for suggesting the possibility, whether the cause of education, as fostered by the State, may not be made more conducive to that end, and to the cause of agricultural science in connection with it. Suppose the State to be laid off into districts with an agricultural school in each one sufficiently endowed to enable it to receive the sons of the poor without charge, and at the same time to accommodate a number of those who can pay their own expenses—the general course of instruction to be in the branches of an English education, comprising the physical sciences applicable to agriculture and mechanics—with a more extended course for those who might require it—manual labor to be combined. No man is so poor and ignorant that he would not willingly give up his son for a few years training in such a school; and few would come out of it without the essential qualifications for good and useful citizens.

Few comparatively, of the youth of Virginia, can enter the learned professions—all cannot be merchants, or clerks—and subtracting the number of those who resort to the one or the other, and the few who receive estates by gift or inheritance, and we have left a number incalculably greater than all these together, who must derive their subsistance from the cultivation of the soil, and who, for aught that has yet been done, must drudge on in the obscure path which generations before them have trod, in a state of hopeless ignorance and poverty.

Agricultural schools should be alike accessible to the poor and the rich—the amount paid by the latter class would be an important aid, and in the vicinity of a market town they might, to a considerable extent, support themselves. As I have on a former occasion remarked, it is difficult to estimate the extensive advantages which might well be expected from such schools, where theory and practice must necessarily be combined, and the physical and mental powers judiciously cultivated. We know that the few landed estates which are yet left to be transmitted from fathers to sons, most frequently fall into the hands of young men who, though they may have the advantage of a college education—may be good scholars and qualified to attain professional eminence—are yet profoundly ignorant of that which it most concerns them to know—practical agriculture. So, too, of the less wealthy portion of our people, who train their sons to the labors of the farm, but after the mode of fathers, and grandfathers and great-grandfathers before them, without, as yet, the genial influence of one ray of improvement—These young men are, according to circumstances, either proportioned off with small farms, or seek employment as overseers, having generally little else than habits of industry, with true and honest hearts, to qualify them for the business of life. It is easy to conceive that to all these, the education of an agricultural school would be certain independence, if not wealth.

The deficiencies among overseers in agricultural

skill and general farm management, are subjects of complaint on the part of a large number of those who employ them, and really a serious grievance. But the poor fellows are not so much to blame, because they have not had sufficient opportunities of acquiring better information. Many landholders themselves are sadly deficient in these particulars. A few years training in an agricultural school, and there would be no foundation for complaints.

Eminently necessary as agricultural education is to the poorer class of our people, it is more so to the wealthy proprietors of land, just in the proportion in which it is worse for ignorance to direct amiss, large and effective amounts of labor and wealth, than small amounts. Besides this, agricultural ignorance amongst the wealthy, is oftentimes less curable than amongst others, because, in some cases, it is entrenched behind a self-consequence which will not suffer itself to be taught, and in most others, all teaching is intercepted by the amusements, self-indulgence and general indifference to money making, and devotion to other pursuits which accompany the possession of property, and especially hereditary property.

There are about 1700 tax payers in Virginia, who own 20 slaves and upwards, each. If two sons to 1600 of these be allotted to husbandry, we have 3200 young men inheriting an immense aggregate of property, while not a fourth of them will be trained up, as things now go, in any knowledge whatsoever that will enable them to manage and control it aright.

An experienced and intelligent farmer remarked in my hearing not very long ago, that important changes in Virginia were at hand—that many who are struggling in the overfilled professions or the uncertainty of commercial pursuits, would find themselves driven to agriculture for a subsistence, and that instead of every man who can compass the means sending his sons to crowd the classical schools of the day, uncertain what they must do for a support when they attain to manhood, they, or a large majority of them would be trained in agricultural schools, the necessity for which would soon be felt so strongly that their establishment would be enforced by the public will.

It is not however, within the scope of a single address, that a detailed plan for such schools can be given, even were the speaker equal to the task: my object is but to state the general principle, to call public attention to the subject, leaving it to be elaborated by wsier heads than mine.

The next measure of general importance seems to me to be the establishment of a State society, upon the plan of New York, with legislative aid—or the re-establishment of the Board of Agriculture, with sufficient pecuniary means to enable it to hold an annual meeting successively in each of the grand divisions of the State, so as to bring together the farmers, planters and graziers of each division in an exhibition appropriate to its locality. A few days saved from the annual sessions of the Legislature would amply supply the funds—though no better direct appropriation could be made from the public treasury, nor probably one more acceptable than this would soon become to the great bulk of the taxpayers.

But, can nothing else be done to resuscitate the exhausted portions of our soil—to introduce an improved, improving and profitable system of husbandry; and so to stay the tide of immigration, which is annually reducing our population and resources? Will they, who, in the possession of intellectual and pecuniary riches, have the power, forever stand idle with folded arms, without a combined, determined and extended effort for the general good? God forbid! But further delay is ruin, and if the effort is ever to be made, the sooner the work is begun the more speedy and certain will be its success.

I am straying, however, from my purpose, and will return to what I have to say of our own county. With the exception of the large estates upon the rivers, the land is poor—has most all been badly cultivated, and no system of general improvement has been adopted. A very large portion of her poor, but honest people, are behind the times, and seem not even to have conceived that their little possessions may be made to yield more than the scanty subsistance with which they and those who have gone before them appear to have been content.

It may well be asked how this state of things originated, and why it has so long continued in the metropolitan county of the State. This may, I think, be readily accounted for. The more valuable lands originally fell into the hands of large proprietors, who, becoming rich with the increasing population and wealth of the State, and assuming the aristocratic habits of the mother country, appear to have been chiefly engrossed by the pleasures which wealth commands, or by the desire for distinction in public stations—alike regardless of the more numerous but less favored people around them. These last were, and still are, the occupants of the middle country, always poor, though capable of being made highly productive. But in a manner cut off by the adventitious distinctions of wealth and station from the other, as a natural consequence, they constitute a distinct class, called in colonial days the common people. Let justice, however, be rendered to both these classes.—When the revolution came, and clouds and darkness overspread the land, there arose from the first, some of the most determined champions of civil liberty and popular rights the world has ever seen—whilst the others filled the ranks of the army, cheerfully endured the privations and sufferings of the half-fed, half-clad troops of our struggling country, until her independence was acknowledged. These were the men, and such as these, who on Christmas day, in '76, left the bloody prints of their naked feet upon the frozen march, and scattered the train bands of the British monarch at Trenton.

But to proceed. When liberty and peace were secured, the poorer classes, without the means of general education, without encouragement or direction in the culture and improvement of the soil, and made still poorer by a protracted war, naturally betook themselves to other and easier methods of gaining a subsistance, afforded by the vicinity of a market; and so the pursuits of husbandry were, as they continue to be, generally neglected.

Is this because the mass of the country people are indolent or vicious? Certainly not. It is because they have too long remained poor and ignorant, and have had no means presented to them by which they might become wiser and richer. It is because the better educated and the wealthy have kept too much aloof from the mass, (except perhaps, when their votes were wanted,)—because the men of leisure, of wealth, of information, have given themselves no trouble to instruct and encourage their poor neighbors, to point out to them, in a kind and friendly spirit, the means by which their condition and the moral and intellectual condition of their children may be improved—because they have not used their own numerous advantages for the benefit of those to whom

they might be dispensed without injury to themselves. Now, I know very well that this arises, in most cases, from no want of latent liberality and public spirit, but because it seems not to have been thought of. Their hands are always open to the necessities and their hearts to the distresses of the poor, and if they would but consider the vast amount of good which might be effected by their personal exertions, they surely would not be withheld.—The poor do not care to be feasted by the rich, nor to mix with the fashionable and expensive society, for which they have no relish. Most probably it has never even occurred to them that they might be benefitted by them in any way. But let any independent, well informed, practical farmer interest himself for the poorer and less informed cultivators of the soil around him; let him offer them kindly advice—suggest such improvements in their practice as are within their means—and my life upon it, he will be met by respect and gratitude, and find his exertions richly rewarded by the improved condition of those upon whom his attention has been bestowed—who in truth —(and it may be said of them throughout the State) —have not done better because they have had no friend to guide them in the way. I have seen enough of the fruits of such efforts to satisfy me that this is one of the most effectual means of general improvement, and certainly would be one of the most powerful auxiliaries to agricultural societies wherever they exist.

There are, it is true, (and I am happy to bear testimony to the fact) many evidences of high improvement, and some in which the shackles of sloth, ignorance and prejudice have been cast off, and the industrious proprietor of a few acres, who not very long ago believed that he could not maintain his family without plying the fishing boat, or the cart, and did not dream that his impoverished soil could ever yield them bread, is now foremost in the march of improvement, and draws from that same soil, now enriched and well cultivated, plenty, comfort and the means of educating his children.

I will here state a single case, that of a member of this society, the owner of 35 acres—17 only in cultivation—he has received from this society a premium on his farm, as justly merited, I take occasion to say, as any it has ever awarded. At one time, he thought it impossible to support his family by other means than his daily sales of wood in the city (a business to which he like many others had been brought up) and he knew so little of the value of manure, that he would not have taxed his horse with the labor of drawing a return load from the city, if it had been given to him. Now, however, the case is entirely reversed. This same man has become an improved and steadily improving farmer—his land has been made rich and productive, and that means of improvement which once he would not have accepted as a gift, he is now willing and anxious to purchase at any price. By the unaided labor of his own hands, he obtains a comfortable support for his family (7 persons,) the means of educating his children—and lays up money at the end of the year. These are well authenticated facts, and they are the fruits of individual exertion on the part of a kind neighbor and friend, long unheeded, but as has been shewn, at last successful. None, I think, can doubt that this industrious farmer and his family, have with their improved circumstances risen, and that they must continue to rise, in the social and moral scale—and that many more instances will crown individual exertions wherever they shall be made.

And now, men of Henrico county, the very poorest of you have health, and—what it is to be hoped none are destitute of—integrity and industry—what hinders you from doing likewise? You have the means, if you will exert them; and here is a Society established to aid you in the work;—here are the people of Richmond, who, when scarce a dozen farmers had united to form the Society, promptly came forward and added to it more than 300 members, liberally bestowing their money to promote your improvement and reward your industry—to bring, as they have brought, the poor farmer upon the same platform with the rich, to be judged by his merits and his means. Can you stand back and refuse or neglect to do your part? Will you not rather banish from your minds the unjust and illiberal prejudice which some have unhappily entertained towards the townsmen, and meet this liberality of your city brethren in a spirit of cordial and manly independence? It cannot be doubted that you will. But to do this effectually, long cherished prejudices and old habits must be shaken off. Give up the lighter occupations upon which many of you have so long relied—improve and cultivate your lands, pursue a course of steady industry—if you lack information, seek it where it may be found, and you will soon find your circumstances improved. If the fisherman cannot altogether abandon his nets, or the wood cutter his market cart, let these employments be subordinate to the cultivation and improvement of your farms.—The fishing season is short, and does not necessarily involve much neglect of agricultural pursuits. As regards the trade in wood, what more is gained by it than a bare subsistence? Whereas, less than the same labor and exposure incurred in cultivating his farm would afford far more comfort, more of the necessaries of life, and the still more important advantage of superintending and training up his family. I mention these two occupations as being the principal means upon which a large portion of our people rely for a subsistence—and as before stated, it is the laboring classes whom I particularly design to address. Are any disposed to inquire how they shall adapt themselves to the course here reccommended —the answer is at hand: You are all, most probably, the owners of some land, and with it a small stock. Set about the work at once. Where it is needed, repair your houses and enclosures—provide for your stock the best shelters you can: all this may be done at no cost beyond your own labor—plough your land as soon and as well as you can—carefully collect and preserve every thing that can be applied to enrich it—keep your stables and pens always littered—make as much manure as you possibly can, no place or stock are so small as not to afford a good deal, apply it all at the proper time to your land, broadcast if you have enough, but if not, then in the drill or hill—enrich all the land you cultivate—cultivate well, and cultivate none that is too poor to give a good return for your labor;—be examples of temperance, industry and frugality to your children —train them up carefully in the way they should go —give them the best education you can command for them. Try this course but for a year and you will feel its advantages. It is, fellow citizens, but sheer justice to yourselves, to your children, and to society, that you should do this. In our country of laws and equal rights, no man is so poor or so humble, if he be honest, but that his children may rise to stations of the highest eminence in the land. I need not stop to recapitulate the illustrious examples of this fact, with which our history abounds. And how do

any of you know but that the little white-headed boy, who alternately labors with you in the field, or takes his way to the humble country school, may one day adorn the Bench, the Bar, the Halls of our Legislation, or lead the armies of his country to victory? * * * * *

THE AMERICAN FARMER.

BALTIMORE, AUGUST, 1846.

The American Farmer.

The 2d volume of the new series of this journal commenced on the 1st of July, 1846, and the subsequent numbers will be issued on the 1st of each month as usual. The very extended circulation which the *Farmer* has attained since its publication in its present form, (being a large octavo, of 32 pages each No.) is a gratifying evidence that the labors of its conductors have not been in vain. The "*Farmer*" is the oldest agricultural publication in the United States, the volume just completed being the 27th year of its existence; and evinces in its vigorous old age, a stamina which will favorably compare with any of its contemporaries.

Terms:—Single copies $1—Six copies for $5—Thirteen copies for $10.—Thirty copies for $20.

Sample Nos. will be sent to any one desirous of aiding in the circulation of the "*Farmer.*"

Address SAMUEL SANDS,
Publisher American Farmer,
122 Baltimore Street, Baltimore.

☞**For a very liberal list of presents offered to our friends to induce an extra exertion in the obtainment of subscribers, reference is made to page 16 of the July No.**

To Postmasters and Subscribers.—Having understood that several postmasters in this State, within thirty miles of this city, have insisted on charging postage on the "*Farmer*," contrary, as we believed, to the letter as well as the spirit of the new postage law, we addressed a note to the Post-master General, with a copy of our paper, asking his decision on the question; to which we received the following reply, by which it will be seen that the Department classes our journal with *newspapers*, consequently is entitled to go free for any distance within 30 miles, to any office within the State, or within 100 miles, it is subject to 1 cent postage—if over 100 miles, and out of the State, 1½ cents.

Post Office Department,
Appointment Office, July 8th, 1846.

Sir:—Yours of the 7th instant is at hand. In regard to the amount of postage, chargeable upon the "*American Farmer*," the Department is of opinion, that said publication may be classed with newspapers.

Very Respectfully,
Your Ob'd't Serv't.
WILLIAM J. BROWN,
2d Assistant Post Master General.

Samuel Sands, Esq., Balto. Md.

Encouraging.—From a gentleman of St. Mary's Co., Md., we received with a list of subscribers, the following note, with which we are flattered, because it is only a specimen of a great number of other tokens of approbation of our labors, which we are daily receiving:

To the Editor of the American Farmer.

"You will excuse the familiar manner in which I address you, when I assure you that the free converse which you have been holding with me, for the last twelve months, through your highly esteemed paper, the "*American Farmer*," makes me feel well acquainted with you, and grateful to you for the frequent and wholesome advice you have given me. I very much regret that I have not been reading it during the whole of my agricultural life (8 years), feeling well assured, that such an investment of time and money would have been a far more profitable and enduring capital than the same amount of money invested in another way. But alas! it is too late to make amends for the past opportunities, neglected and unimproved. It remains then for me to lay hold on the present and prospective advantages afforded by your invaluable paper. Its monthly visits, with its gentle admonitions of what ought to be done prior to its next visit are always welcome. Its essays, &c. on every subject appertaining to agricultural affairs are always interesting.

I do not know any one in this neighborhood of about 40 square miles, who has been taking your paper except myself. Being much pleased with it, and believing that my brother farmers of the neighborhood would be benefitted by it, I tried, and have succeeded in some measure in extending its circulation."

We take the following as a specimen of the estimation in which our work is held by our brethren of the press. It is from the Rockville (Montgomery Co., Md.) Journal:

☞We have received the first number of the second volume of the "American Farmer," published by Mr. *Samuel Sands*, of Baltimore. It is unnecessary for us to speak of the merits of a work so well known, as the Farmer. We are gratified to find that our farmers are beginning to appreciate it. We feel confident that in a short time it will be in the library of every farmer in our county. We suggest to the Agricultural Society recently formed, to make some move in reference to this valuable work. It is, in our opinion, the best and cheapest of the kind published in the country. Its terms are, single copy, one dollar; six copies for five dollars; thirteen copies for ten dollars; thirty copies for twenty dollars. Let clubs be formed all over the county, and each subscriber will get one number for less than 70 cents—attend to it at once.

Gen. Richardson's Address.—We should do violence to our own appreciation of this most excellent address, did we not call the special attention of our readers to it. Although addressed to the agricultural society of Henrico county, Va., it is most happily adapted to every section of our country. It breathes the purest spirit of philanthropy and patriotism—takes a statesman-like view of every subject it touches, and strives, with most becoming phrase, to elevate the agricultural calling, by infusing into its members that self-respect—that generous pride of occupation—which leads the soldier to the cannon's mouth with unblanched cheek and high strung nerves, makes the citizen in the private walks of life a virtuous and a good man, and infuses into his mind a laudable thirst for knowledge.

☞Our friends who may visit the city, are invited to call at the establishment of Mr. Plumbe, and examine the specimens of his art, in taking Daguerrotype likenesses. Perhaps a more acceptable present, at so small a cost, could not be taken to the loved ones at home, that a portrait by this celebrated process, for which Mr. Plumbe is so eminent.

THE POTATO ROT IN DELAWARE—We notice by our exchanges, that the Potato crop of that enlightened farmer, Dr. Joseph W. Thompson, of Delaware, has shewn symptoms of disease, and as no one is more able than he, we should feel gratified were he to favor us with a paper containing his views upon the probable cause and remedy. We should be pleased, also, to learn from him, whether he took the precaution to use mineral preventive means? If so, what kinds, in what quantities, at what period, and how?

We regret to learn, that the disease has appeared in various sections of our State, and a heavy diminution of the crop is deemed inevitable.

HORTICULTURAL MAGAZINES—We have noticed in another page, the appearance of a new horticultural journal, edited by Mr. Downing, the title of which is, "THE HORTICULTURIST," published simultaneously at Albany, Boston and Philadelphia, monthly, at $3 per annum. We have also to note the fact, that HOVEY'S MAGAZINE OF HORTICULTURE fully maintains the high character which it has attained for a number of years, as the organ of communication of all the principal Amateur and Practical Cultivators in the country. It is published at Boston, monthly, at $3 per annum. Subscriptions for both of the above works received at our bookstore.

FARMERS' LIBRARY, BY SKINNER—We have received the first No. of the 2d volume; the republication of Stevens' celebrated work, The Book of the Farm, embracing a vast number of plates, is commenced in this number; this work of itself is worth many times the amount of a year's subscription to the LIBRARY, without taking into the account the fund of valuable matter beside which its talented Editor will provide for his readers. Subscriptions received at our bookstore; subscribers in the city and vicinity can receive it free of postage.

ETRURIAN WHEAT—We would refer the reader to the communication of Mr. Zollickoffer, in regard to the result of this year's growth. We published in our last Mr. Tilghman's statement, and our correspondent in Kent, it will be seen, gives an instance of its ill success in that county; on the other hand we learn from Col. M'Kenny, of Queen Anne's, that it has succeeded well with him, and it is his intention to sow all that he has raised. The Hon. W. T. Goldsborough of Dorset has left with us a fair sample of his crop, which is a very fine, plump grain, and very heavy. We wish to give all the information in our power in regard to this wheat, and those who have raised it this season, are requested to forward, in time for our next number, a statement of its relative merits with other varieties—this is due from them to their brother farmers who have contemplated sowing it this Fall.

LAUDERDALE, (Carroll co. Md.) July 18, 1846.

To the Editor of the American Farmer:

We have just got through a protracted, tedious and *anxious* harvest. Most of the grain in this vicinity is housed. This has been a remarkable season for extremes of dry and wet; but the latter produced the terrible disastes of which you have seen so many complaints from various parts of Maryland & Virginia.

In April we had a withering drought which was exceedingly severe on the early wheats. From each *stool* only a portion of the stems seemed to grow; while the weaker became sickly, which gave the *fly* an opportunity to commence their depredations on all the varieties to which they were partial. Through all this part of the country I have not heard of one instance of their injuring the Mediterrancan. Some fly was found in the Etrurian, but it was a mere nothing when compared with their depredations on the old varieties; the Blue stem particularly suffered—this is one of the oldest varieties cultivated in these parts, and has long been deservedly a great favorite with the farmers, but from its inability to sustain itself under any adverse circumstances I have not sown it for several years past.

I notice in the July No. of the Farmer that Mr. Tilghman (who gave such a bad account of the seed he obtained for Etrurian last Fall) says that his was entirely destroyed by the fly. All I have to say in reply is, that if the seed he sowed for this variety was as represented by him, it was not of my lot, and consequently makes nothing in the case. I should be glad to learn how it fared with those who procured the right kind of seed. With me the great object has been in all my efforts and experiments (and they have not been few) to obtain such varieties as are hardy and productive. The early ones generally in these particulars have with me succeeded best; hence, as I said once before, my partiality for the Mediterranean and Etrurian. It will be recollected that in my advertisement in the No. of the Farmer for August last, that I did *not* say that the Etrurian was fly-proof, but that "so far as four years experience has gone" it had not been injured by the fly. The same I always said in reply to the many inquiries made of me from various parts of the U. States since the publication of mine and other notices of it in the Phila. Courier. I may now add, that after a season so favorable for the operation of the fly, it passed through unscathed with me, whatever may have befallen it in other hands.—However, as I observed above, the greatest injury was from the wet; the consequence was, blight of the blossom, scab, rust of the stalk and mildew of many of the grains after they were formed; and in many instances much sprouted after it was cut. In all these particulars my Etrurian sustained itself far beyond my expectation; one of my fields which was not thrown down by the rains so much as some others, shows its superiority in the brightness of the straw and fulness of ears, while whole fields of other kinds in the neighborhood are almost worthless; the rust did the evil to the blue stem where it had been left by the fly; or the rains pushed it beyond their power to destroy. But the rains which set in after we began to cut our harvest, did the most serious injury to the Mediterranean and Etrurian; both of these early wheats recovered from the effect of the drought after the rains set in; they possess recuperative powers not found in any of the old varieties; and were the Mediterranean a white wheat without awns or beard and stiff in the straw, it would be an invaluable kind—as it is, it is far superior to any of the older sorts. My confidence in the Etrurian by the severe trial it has had is not only not impaired, but is increased. I am now more confirmed in my opinion of its productiveness and its capability of sustaining itself under adverse circumstances. In haste, yours respectfully,

DANL. ZOLLICKOFFER.

CROPS IN KENT CO. MD.—We have received from a correspondent a very interesting statement of the condition of the crops of the "Eden, or Garden spot of Maryland," as our correspondent, who is rusticating there, styles it; we regret our inability to give but little more than the substance of his epistle, which, we must say, gives a very unfavorable prospect as to the yield of the great staple of our state, Wheat, in the neighborhood whence he writes. He says that the red, yellow and white bearded, have been to a great extent, and in some instances wholly destroyed, by the ravages of the fly and rust, which have made sad havoc throughout the county. The Mediterranean wheat has been unharmed amidst all this destruction of those dire enemies of the wheat crop, and has amply repaid the farmer for its culture; whilst the straw of this variety has, universally, a beautiful, glossy, healthy appearance, that of other kinds has a dark, dirty, musty look, and it is apprehended the cattle will refuse it as fodder, should any wish to feed it. It is the determination of most of the farmers in the neighborhood to seed with the Mediterranean this fall. Dr. Kennard sowed on his Elmwood farm 5 or 6 bushels of the Etrurian wheat, which our correspondent informs us suffered from the fly and rust as much as the other varieties alluded to. The Dr's. Corn and Clover are represented as very luxuriant. Our correspondent speaks highly of a newly contrived pig pen which he examined at Dr. Kennard's farm, in which great quantities of manure, more than sufficient to pay the expense of raising the hogs, is obtained. We would be glad if the Dr. would furnish us with a drawing and description of his piggery, for our journal, as also an account of his experiments with guano and other fertilizers, of which we learn he has used very liberally. He also uses the Bommer method of making manure, and does not hesitate to say, that the manure by it is *five times better than the barn-yard*. Judge Chambers also uses the Bommer method, with which he is much pleased; and the Hon. Rd. Potts of Frederick, assures us, that his Manager, who was at first very much opposed to its introduction on his farm, is now quite an enthusiast in its favor.

The Oat crop is unusually large and fine this season; Corn also looks well, but there had been some apprehension for it on account of the short cold spell which succeeded the wet weather about the first of July. The Potato crop bids fair to yield largely, there being no indications of the rot; the young Clover looks prime, but the old was almost an entire failure.

We are gratified to learn that efforts are about being made to reorganize the Kent Co. Agricultural Society, which for some time past has been disbanded.

THE MEDITERRANEAN WHEAT.—We have conversed with many intelligent farmers who, without an exception, concur in opinion that this variety of wheat withstood the vicissitudes of the season better than any other, enjoying to a very great extent exemption from injury from *the Fly, rust* and *scab*, those dire enemies to the wheat crop—and we were gratified to learn further, that its flouring qualities had very much improved since the introduction of its culture among us. This last fact will lend to increase its popularity among wheat-growers, as the sagacity of the millers will soon teach them that it is their interest to put a proper appreciation upon a kind of wheat, whose constitutional properties enable it to resist the evils of insect and weather which have hitherto tended *so* much to interfere with both the quantity and quality of this indispensable grain.

The Mediterranean wheat possesses habits of character which must commend it to the favor of discerning wheat growers. 1. It bears earlier planting than most other kinds: 2. It posesses greater constitutional vigor, is rapid of growth, and therefore resists the fly better than most other kinds: 3. It arrives at maturity fully ten days or two weeks earlier than most other kinds, and, is thereby enabled to escape those influences of weather which are supposed to generate the rust.

THE POTATO CROP.—The communication of Mr. C. Birnie will bespeak for itself a general reading. For ourselves we cannot undertake to solve his questions; but respectfully ask of such of our readers as may have devoted their attention to the subject of Potato rot, to favor us with their views upon the subject. The Potato crop is one of very great value in dollars and cents, and the disease which has so preyed upon its products is, therefore, a subject of deep concernment to all.

As the potato contains a very large portion of *potash*, and much of the soil devoted to its growth, has, by long culture, been deprived of that mineral, we are inclined to believe that the deficiency should be artificially supplied, by the admixture of ashes, or potash, with the manure. Nor would we be content with this,—but would invariably strew a mixture of lime, salt, and soot in equal proportions over the vines when a few inches high, with a view of destroying the cause of the disease, should it be referable to the fungus tribe, which latter opinion appears to be entertained by some of the most distinguished *Savans* of France.

From all we have read upon the subject, and from our own personal observation, we do not entertain the opinion that the rot proceeds from the enfeeblement of the constitution of any species, or variety, arising from the age of those particular kinds, or that any *care* which could be bestowed upon it could tend to render it less robust. The Mercers were produced by *seed* in Chenango County, N. Y. by a farmer of the name of *Mercer*, whose name they bear, though they are often called *Chenangoes*, from the name of the county where they were first grown, and though, in common with other varieties, they have been for some years sorely afflicted with the subtle enemy, we still hope that they are destined to survive for a century and outlive the malady that robs the pot of so many of them.

We have, however, learnt from a friend in Baltimore county, that his Mercers have also been the sufferers, whilst other varieties have escaped injury.

We hope our friends will report to us such facts in regard to this disease, as may appear to be of general interest.

We commend the communication of our correspondent, Mr. *Robt. Sterrell Wood*, to the careful attention of our readers—and, while we do so, will seize the occasion to remind him, that a *pen* so able to advance the interests of agriculture as his, should not lie idle, when the pages of the *American Farmer* are open to receive its *products*.

We are not a little pleased that one so competent as is Mr. W., should approve the views we threw out in our last, upon those portions of the elements of Indian Corn which constitute nutrition. We honestly entertained them, and notwithstanding our views were antagonistical to those entertained by those great lights, *Playfair* and *Liebig*, we fearlessly put forth our dissent to opinions which we believed to be unsound in themselves, and calculated to do injury. We think we clearly showed in the article which our correspondent approves of, that if Indian corn contained no larger portion of *nutriment* than professor Playfair's analysis states it does, that no animal, whether biped or quadruped, could take into its stomach enough of it in volume to sustain life, much less to preserve the system in strength and vigor. Such *extreme* theories as those indicated by professor Playfair, like some logicians we wot of, by attempting to prove too much, prove nothing, and consequently leave their argument without support.

[EUROPEAN AGRICULTURE AND RURAL ECONOMY. From personal observation. By Henry Colman.]

We have to acknowledge the receipt from the Publisher, in this country, A. D. Phelps, of Boston, *part* 6 of the above work—and however much we may have been pleased with the preceding ones,—and we have borne testimony to their merit—we are more pleased with this than with any of the others. Its pages enter with more spirit into what may be termed *practical husbandry*, and give us a much clearer and more definite idea of the European mode of doing things than any which have gone before it, which greatly enhance its value in our view. The *table of its contents*, alone, is conclusive of the propriety of the opinion we have expressed, and such, we think, will be the concurring opinion of all discerning readers. It treats of various subjects in so compressed a form as to render each chapter within a reasonable compass; nor is the *condensation* used, of a character to interfere in the least with a compre-

hensive understanding of the subjects treated of. Some of the improvements effected in England, as illustrated by our author, are to be sure, upon a scale of such magnificence both as regards extent and expenditure, as to place them beyond the pecuniary ability of most American proprietors; but even these are pointed out with so much graphic truthfulness —so distinct and clear, both in extent and phrase,— that the modus operandi of each is susceptible of application to the wants, the requirements, and the resources of our farmers and planters, and may with ease be accommodated to every location and district of our country.

Having spoken of the *table of contents*, it may be as well to specify some of the subjects discussed—they are 1. paring and burning—2. Burning land—3. admixture of soils—a very interesting chapter by the bye, in which are developed several striking improvements effected in the physical condition of soils by mixing clay with sand, and sand with clay—4. Improvement of peat lands—5. Warping—6 Draining of lands, in which the various methods pursued in England, Ireland and Scotland are clearly pointed out and illustrated by cuts. The effects of draining on various estates are shewn, in which the products of the soil before and after the operation had been performed are stated, so that the reader is not left to guess-work, but can see at a glance the resulting advantages, and by comparing the condition of his own lands with those operated upon in England, determine at once how far it may be advisable for him to encounter the expense of draining them, and whether his interest will, or will not be promoted thereby. Of the valuable character of improvements to be thus effected we never have had the scintillation of a doubt, and have for years past been endeavoring to impress the convictions resting upon our own mind of the utility of the practice upon the favorable consideration of our readers.

We regret to find so limited a support given to this work in our vicinity—We hope that our public spirited agriculturists will come forward, and sustain it in a suitable manner. Those disposed to do so, can be furnished with the numbers issued at our bookstore, where subscriptions are received.

THE NEW ENGLAND FARMER.

The last number of this valuable old agricultural publication, announces to us the fact that it is henceforth to cease to exist—and deeply as we regret its discontinuance, the degree of that regret has been heightened by the disclosure made by the proprietor and editor, that its patronage was not such as to justify its continuance. For a *quarter of a century* it had pursued the even tenor of its way, enlightening the pathway of the farmer and exciting him by laudable examples to go on in the improvement of the soil, the elevation of the agricultural character, and by such incitements to extend the sphere of his own usefulness, and as a consequence, to advance the national prosperity. It commenced its career under the auspices of the gifted *Fessenden*, a gentleman of enlarged and comprehensive mind, of deep research, a profound thinker, and a ripe scholar, and although since his death its editorial chair has several times changed hands, the New England Farmer has always been ably conducted—its columns have ever been well filled with selected and original matter, and commended itself to the good taste of its readers by every characteristic that could define an able journal. That such a paper, after a devotion of twenty-five years of intelligent toil in promoting the best interests of the country, should be suffered to die of neglect, in the midst of an utilitarian population like that of New England, is a marvel to us, and does not reflect much credit upon the enterprise or public spirit of those who have permitted it.

The N. E. Farmer was the oldest agricultural journal in this country, save our own—and in parting with a friend so long cherished in our affections and appreciated in our judgment, we well say to its late proprietor and editor, Mr. *Breck*, that the people of New England, in denying their support to a journal like his, have evinced as little sagacity as patriotism.

Mr. Breck, is one of the publishers of a new work devoted to Horticulture, edited by J. A. Downing, the first number of which can be examined at our bookstore, where subscriptions are received.

We also see by the last No. that the "*Dollar Farmer*," published by the editors of the Louisville Journal, has ceased to exist—at which we are surprised, as it was a work of great merit.

THOUGHTS ON THE BRITISH CORN LAWS —THEIR EFFECTS ON US.

At the time of writing this article, the Corn-law bill having passed the British House of Commons, with every prospect of its passing the House of Lords, it is but fair to treat it as an act of the British Realm,—and hence a few remarks upon the effect it may operate upon the grain-growing interests of this country seem opportune to the occasion. By this act grain is admitted at a very low rate of duties into the ports of Great Britain; but by it also a discrimination is made in favor of the farmers and millers of the colonies of Canada, which *discrimination* will, as we fear, and have had occasion before to observe, operate against the introduction of wheat grown on the adjacent North American States, into those colonies, and if so, a market hitherto enjoyed by the wheat growers of that section of the Union will be cut off. The question then arises—Will the grain growers of this union, in the mass, be benefitted by the reduction of the British tariff on foreign grown grain? In years of scarcity in England, our chances of coming in as participants in furnishing whatever the deficiency may be, will be promoted to the amount of the difference between the former and present rates of duty, while, on the other hand, we shall suffer to the extent of the quantity of grain

which hitherto found its way into the Canadas from the bordering states of this union. But we doubt very much, whether the reduction in the Tariff will make any serious difference in our favor, as the supply can be obtained from the Baltic and Black seas so much sooner than from the United States; and notwithstanding a contrary opinion has recently been advanced, we believe, also, that it will be obtained thence cheaper, as labor, the chief element in the cost of production, is so much cheaper there than here. The wheat raised in those regions we are aware, is not anything like as good as that grown in America, but in times of scarcity, wheat *is* wheat, and consumers will look more at price than quality, and especially so where the inferior article is sound and edible. This appears to be the more reasonable conclusion to arrive at, as years of scanty production are generally accompanied by such pecuniary embarrassments, as to incline men to be desirous of making their means go as far as possible.

These remarks we desire to be considered not to have relation to the exportation of *Indian Corn;* for we have strong hopes that the experiment now being made to introduce its use into the British Kingdom, will so far succeed as to commend its use not only to the operative classes as a cheap and nutricious food, but that the large graziers and fatteners of cattle, and stock generally, will be made to appreciate its admirable adaptation for all the purposes of stall feeding—for, of a truth, there is no other grain at all comparable with it for the secretion of fat, rapid finish of animals undergoing the fattening process, and solidity and fine quality of meat prepared on it.

NITRATE OF SODA—SALT-PETRE—GUANO —BONES.

In answer, in part, to our correspondent, "*A Subscriber,*" we would remark, that we are not aware that there is any large quantity of the *nitrate of soda* in this market. We cannot, therefore, state its price. Some seven years since several hundred bags of it arrived here from South America. It was expected to be sold to Powder manufacturers, but in this expectation its importers were disappointed, it being found to be unsuited to such purpose, owing to the property of diliquesence possessed by *Soda,* one of its consistent elements. It is a compound body consisting of 62.1 parts *Nitric Acid* and 37.9 parts *Soda,* and there can be no doubt of its being a valuable manure. We have no knowledge that it has been used as such in America; in Europe, however, it has been, with the best results, upon a variety of soils and crops. Of its effects *there,* we shall speak more fully in our next number,—and will seize that occasion to dwell upon the virtues of *Salt-petre* and *ground bones* in the same connection. The price asked for the lot of *Nitrate of Soda,* of which we have spoken, was $7 per hundred—and it may not be uninteresting to state, that its cost delivered on ship-board in Peru, is about $3.40 per cwt.

The article in this country has been chiefly employed in the manufacture of *Nitric* and *Sulphuric acids.*

Saltpetre is worth from 6½ to 8 dollars per hundred as in quality.

Peruvian Guano, importer's price, $2½ per 100 lbs. for not less than 2 tons.

Bolivian Guano, $2,00 per 100 lbs.

African Guano, $1,60 do.

Poudrette, $1,80 per barrel.

HUSSEY'S IMPROVED REAPER.

We have received the following communication from the Hon. Wm. Carmichael, relative to the value of this labor-saving machine. Mr. Hussey was in North Carolina, during the late harvest, where his Reaper has been very successfully introduced.

To the Editor of the American Farmer:

I commenced harvest on the 17th and finished on the 25th. My crop was Mediterranean and red chaff wheat. I commenced when the Mediterranean was in the dough state, and by the time it was cut, the red chaff was in the same condition. I lost no wheat from shattering or the falling of the straw.

The performance of the Reaper answered my fullest expectations. There was no stoppages except for oiling, and it cut heavy and light wheat with the same facility; a part of my wheat, by estimation, exceeds twenty bushels to the acre, and none procuuces less than twelve.

As the Reaper has not come into general use, I will state the labor I employed. One man to drive the horses, another to rake the wheat from the platform, two to cut the way for the horses, who also were employed in shocking—eight binders, each able to do the work of a man, and some children to carry the wheat together. My Reaper is fitted with four wheels, adapted to four horses, which I changed every spell.

I did not commence in the morning till the dew evaporated, as I desired to bind and shock as I progressed, I therefore cannot say whether the Reaper would successfully cut damp wheat. The advantages of the Reaper are, it lightens the burden of the laborer, it lessens harvest expenses, it saves much wheat, which would be lost by the cradle or sickle.

I do not complain of the price of the Reaper, ($150;) a man who by his genius and assiduity contributes largely to the advancement of agriculture, deserves to be liberally paid, but I think under a reduced price, Mr. Hussey's increased sales would result in a larger profit. Wm. Carmichael.

Queen Ann's County, Md. 26th June, 1846.

☞We witnessed the operation of Mr. Hussey's Reaper at the Alms House farm near this city, on a field of wheat; it was cut after the protracted rains of the early part of July, and the wheat was consequently in the worst possible condition, having been beaten down in every direction, and the grass as high as the grain in many places—the triumph of the machine, however, was complete; its execution was cleaner and more perfect than could possibly have been accomplished, under the circumstances, by hand, and gave the utmost satisfaction to all who witnessed its performances; the principal difficulty in its way, was the inefficiency of the binders, a dozen of whom, inmates of the institution, were unable to keep the track clear of the cut wheat, causing frequent stoppages of the machine. It was a beautiful and an animating sight, and we feel full confidence that this invention of our fellow-townsman will be uni-

versally adopted, and become a blessing to the human family. Our friend, Maj. Jones, of Delaware, through whose public spirit one of the Reapers was first introduced into his State, informs us that the number has very greatly increased during the last harvest, and that many more were required, but in consequence of the delay in forwarding orders to the inventor, time was not allowed him to fill the same.

EXPERIMENTS WITH BONE DUST.

BY A MONTGOMERY FARMER.

We have been furnished with the following letter from a farmer of this State, detailing his experiments with Bone dust:

Bloomfield, 6th Mo. 13th, 1846.

Basil H. Pleasants:

In compliance with thy request, I cheerfully give testimony in favor of the great efficacy of crushed or ground bones as a fertilizer.

I have used a large quantity of the article on almost every kind of crop that is produced by the Farmers in this vicinity (with the exception of Tobacco), and in all quantities, from five up to forty bushels per acre, and in no single instance have I ever seen it fail to produce the most striking effect. I have also satisfied myself entirely of its durability, as the ground where it was first applied six years ago, at the rate of twenty bushels per acre, has, without the application of any other manure, gone on to improve in a manner almost incredible, the clover giving way to a heavy green grass sward, and the ground when broken up this spring for corn, exhibiting the most unequivocal testimony in its favor.

Having kept an accurate account of my crops of wheat for several years, I feel warranted in asserting that a bushel of bone properly applied will insure a bushel of wheat.

I made an experiment with it last year on Buckwheat, which was to me conclusive as to its adaptation to that crop. On the 8th of the 7th month (July), on four acres of thin land that had been the year previous in corn, I sowed forty bushels of Bone, four bushels of Buckwheat, one bushel of Mediterranean wheat, one bushel of Clover, and one bushel of Timothy seed, leaving a strip seven steps wide through the middle without Bone, to note its effect. I harvested eighty bushels of Buckwheat, and expect certainly five bushels of wheat from the half acre sowed, and, although the drought of last year bore heavily on the grass, yet the ground is well set with Clover and Timothy, with the exception of the step above mentioned, upon which there was and continues to be nothing.

In conclusion, I invite the most skeptical to come and examine my experiments and judge for themselves. In all that I have written on this subject, my sole motive has been, and is, to encourage that spirit of improvement that is destined at no distant day to make at least some parts of this poverty stricken county "blossom as the rose," and that we who are now young, before we shall be gathered to our fathers, may hear it said with truth that Montgomery county is the garden spot of Maryland.

Thy Friend,
RICHARD T. BENTLEY.

SELECTION OF SEED CORN.

Liberty, Bedford Co., Va. 20th July, 1846.

To the Editor of the American Farmer.

DEAR SIR.—As the time approaches when the corn crops should be gathered, I wish (through your excellent American Farmer) to suggest to each farmer who reads your paper, and through them to every neighbor of their's who may not read it, the necessity and advantage of selecting seed corn in the fall as they gather their crops of that great staple of our country. I wrote to our friend, Mr. Skinner, a long letter on this subject some twenty odd years ago, which was published in his American Farmer, and soon thereafter distributed to many, some of my seed corn, the increased product of which all acknowledged, and some of them profited considerably no doubt, by the suggestions; and selling their seed corn at high prices (Mr. Baden, for instance): and some five or six years ago, I again wrote a short note, also published in the same paper. To the many who never saw those letters, who now read your paper, I would advise, that in cutting the tops off their corn this fall, to leave the top on those stalks having two or three fine ears, and which are very forward, and the shuck or husks dry and white, thereby showing their forwardness. By the top, they can easily distinguish at gathering time the seed corn, and gather and house it to itself, and not take the shuck off until planting time in spring, keeping it until then secure from rats and vermin. And by continuing this process a few years, they will materially increase their corn crops, with so little trouble that no practical farmer should fail to try it.

I have never known one to try it, who did not acknowledge its benefits and increased yield of corn. Several have lately rode through my corn crop, and every one expressed their great surprise at seeing vastly more stalks with four and five fine large ears on each, than they ever saw before; and not one in many dozens without two or three fine ears on them. I ask all to try it a few years, and if not pleased with the result, to discontinue it. By this process they materially increase the product and increase its forwardness. I am fully satisfied from long experience of the great advantage of reserving the best of many of our products for seed, and letting them grow fully ripe before harvesting; and earnestly recommend the same to all cultivators of the soil.

In haste, your obt. ser't. &c. WM. COOK.

N. B. As animal bones make such fine manure and are so much sought after, I can through the Farmer, inform those desirous of procuring a quantity of that article, that many thousand skeletons of Indian horses or ponies, may be obtained along and in view of the stage road from Rock-row (a village on White river, Arkansas) to Little Rock in that state. In Grand Prairie, some few years ago, as the Southern Indians were emigrating to the far West, vast numbers of them went this route, and their horses were so reduced and weak for want of food, vast numbers that lay down in that vast prairie (50 or 60 miles across) never rose, and their bones whitened the prairie for miles. There are probably the bones of from two to three thousand *or more*, bleaching there, and good steamboat navigation convenient for transporting them where they may be useful and profitable. Others can better judge whether they are worth gathering up, &c. for manure. I passed that way to upper Red River and Texas some years ago, and saw what I speak of. W. C.

PLOUGHS FOR THE SOUTH.

Beaufort, S. C., July 13th, 1846.

To the Editor of the American Farmer.

As I believe that our Southern Planters are fully afloat upon the broad ocean of doubt as to which of the agricultural implements of the day are suited to

our purposes, I will in order to contribute my mite towards bringing them to the desired haven, give you the results of an experiment made with ploughs. Our system of cultivation in almost all our crops, is still that of bedding or ridging, and I see no prospect of ever being able to change it, and as it is only for those who pursue this system that my experiment possesses any value, I will not stop to explain the technical or local terms of the different steps. I had listed a piece of land that I wished to plant in corn, but as one part of it was so stiff that I would not have been able to plough it properly later in the season, and the other part was so low as well as stiff that the seed would most probably have rotted in the ground if planted in the list, I wished to put a furrow on the list on each side, in order to raise the list in the one part and break up the land in the other. I had prepared part of the land already with the 9 inch Davis plough drawn by 2 mules—I then stopped my best ploughman, made him detach his mules from his plough and attach them to one of Prouty's Ploughs of the same size. After having run two furrows the whole length and through both pieces of land, I made him stop, as I found that this plough did not throw the furrow at all to my satisfaction—I next stopt another two mule plough, and made the first ploughman attach the 4 mules to a prairie or Wisconsin plough, of about 10 inches furrow, which doing no better work I soon stopt also. I next attached the 4 mules to one of Mr. Eastman's 10 inch Cleazy Plough, but got no better work done, and finally attached my mules to their two 9 inch Davis' ploughs, and did over the work of the other ploughs. This is a striking instance of the necessity of using ploughs of different construction to perform different kinds of work, as the three kinds that failed are ploughs of the very best shape, and the two first of great celebrity for breaking up or turning land. I believe that almost the whole cotton growing region is cultivated on the bedding or ridging system, and therefore the plough that will do best that kind of work that we require, and with least labor to the animal, is the plough wanted by us. For this purpose I have not yet seen the plough that is to be compared to the Davis', as made in Baltimore. It also possesses the properties of great strength, simplicity and durability, too generally deficient in most other ploughs. I have used these ploughs for about 12 or 14 years, and speak therefore from no short trial. The 7 inch or one horse plough is a little heavier of draught than the Ruggles & Co's. A. No. 1, but in return its work is worth about double; it is also so strong that two mules, with which number I have often worked it, *cannot* break it, and in my soil, which is clayey, they generally last about 8 years I think, and of so simple a construction that there is neither mortice nor tennon in the stock, and consequently can be made by the commonest carpenter. For breaking up or preparing my lands I much prefer the 2 horse or 9 inch plough, which I think is of a better shape. A 2 or 4 horse double mould board plough of this construction would be of incalculable benefit to us if our planters could be induced to use them for breaking up the baulk or centre of the old bed. It is equally suited to our interior country, from its cost and ease of transportation, as for such situations, only the castings and bolts need be bought, of which the prices are, I believe, mould-boards $1.50, shares or points (the rounded I prefer) 18 or 25 cents each, heels 12½ or 18¾, cast iron clevis, the simplest and best I have ever seen, I do not know the price of—and all the bolts about 75c. to $1. I have always procured my ploughs, &c. of Mr. J. S. Eastman, whom I can confidently recommend to all disposed to try the plough. I annually procure such points, heels and bolts, as I may need for the year, of him, for which I pay him, when the amount is small, by enclosing the amount, but when larger, through my factor, which is attended with no trouble.

Yours respectfully, ROBT. CHISOLM.

THE POTATO ROT.

To the Editor of the American Farmer.

Westminster, Carroll Co. July 10, 1846.

Sir:—The potato crop is very much affected in this neighborhood with the *Rot*. It is here almost too early for much observation, but I desire to draw the attention of agriculturists to the subject—whether it is not a particular species of potatoe, and (if the potato generates by pollen) *its crosses*, which suffers from the disease. A limited observation induces me to think that the Mercer variety is, if not alone, more liable to the disease than any other cultivated here. Cultivators inform me, their early crop of Mercers are destroyed; whilst their *whites* are sound and unaffected. My own experience on the produce of mixed cuttings tend to this conclusion. One person informed me, that out of a heap in his cellar of Whites, Pink Eyes and Mercers, the Pink Eyes alone escaped the rot. May it not have been that the Whites were a cross of the Mercer potatoe?

Eastern cultivators have paid great attention to the subject, but without any definite conclusion, but I have not seen any remarks on the subject of *Species*. If I am rightly informed, the Mercers are the result of great attention to obtain a superior article, and if so, I presume it would be liable to the same results common in the animal economy; an injury to the natural constitution of the plant by too much nursing and care.

On cutting open the Mercer potatoe across the longer diameter, an irregular pink ring will be observed running out at the eyes, and I have found where disease is apparent in the centre of the potatoe by its assuming a watery or shining appearance, radii of the same appearance connect it with the ring, and there stop; and where the disease affects the outside, I have seen the entire outside putrid as far in as the ring, and the interior apparently sound.

The attention of men selected for their science, has been called to the subject by the French government. Men of similar character have investigated the subject in this country, in England, and generally throughout Europe; but they come to different conclusions; and when it can scarcely be supposed that any distinct species of potatoe should extend over those countries, the difference in results may arise from the difference *in the disease*, and that from climate; and (as was thought to be the case in Asiatic cholera) all be the result of atmospheric influence affecting one species in a particular latitude more than another, and with a disease differing somewhat in its symptoms and analysis, but not in its final termination.

In the various causes, however, which science has attempted to point out, I have been struck with the fact, that whilst the ashes of wheat are only 1-13th part potash, the ashes of the tops of the potatoe are ⅓—this clearly points out the proper manure for the latter. The disease, however, cannot be presumed to be the result of the particular manure. Stable and barn-yard manure, *now* believed to be injurious, have been the only ones applied for ages, before agricultural chemistry in these latter days had innovated on its immemorial rights.

Some able Chemists attribute the disease to a deficiency in the alkalies, and if so, the remote cause I think must be in the atmosphere: because the disease existed not only in all countries pervading them as an epidemic, but in every variety of climate, season, and soil, and under various modes of manuring and cultivating. In the same neighborhood one farmer has lost his entire crop, whilst that of another has been first rate. Whether it has been the effect of atmospheric or other causes operating on a potatoe of particular species or constitution, whether peculiar in its nature or enfeebled by refined cultivation, I have seen nothing on the subject, and submit the idea of a particular species being more liable to disease, to the observation of others. Should observation prove that all kinds of potatoes are alike liable to the disease, it must be remembered that the potato, of all the vegetable kingdom, is more grown from *cuttings* than from *seed*, and if after a long lapse of years the constitution has become enfeebled, may it not be resuscitated and new kinds produced by sowing the seed of the potato ball. The disease extending over so many countries and through so many latitudes and varieties of climate and soil, leads me to one of two conclusions, either the atmosphere is the cause, or the potato, generally, or *in species, is worn out.* Yours, &c.

C. BIRNIE.

ALABAMA FARMING.

Clair Mount Farm, 4 miles west of Eufaula, Ala.
July 11th, 1846.

To the Editor of the American Farmer.

Dear Sir:—The time is rapidly approaching when the farmers of the South and South-west will pay much more attention to stock, agricultural implements, and indeed every thing relating to their business and interest, as farmers, than heretofore; a renovation has to take place, and will gradually do so; the system of cutting down the forest, skimming off the surface in a few years; then pushing off to some new country, and thus passing a life of racing about from place to place, never settled, never comfortable—will give way to a more rational system of remaining at one place, studying agriculture as a science, carefully improving the home, making it a lovely place, manuring the fields from year to year, doubling the crop raised, raising fruit trees, having a beautiful flower garden, in a word, acting as becomes a wise, industrious farmer, who intends to enjoy life. Now, my dear sir, some may think this too highly a drawn picture, but I know it is not; it is nothing more than what every cultivator of the soil should carry out, and what I am endeavoring to do. Since I have taken charge of my farm myself, I have given all my negro houses inside as well as out, two coats of whitewash; my house heretofore occupied by an Overseer, I have put sheds to each side of it; also, well white-washed, so that the place presents the appearance of a small village. We have been engaged for the last three weeks in digging up the blue marl, and have up to this evening, Saturday, 11th July, four thousand bushels hauled into the lot where I prepare my compost manure; the field that I manured last winter, presents at present a most splendid appearance; the cotton is more than twice as large as the land precisely of the same quality I did not manure. I am now making the greatest effort to manure my entire Farm, at least all that is sterile, and believe that I will be amply compensated for the labor bestowed.

I hope, my dear sir, that your efforts to improve the agricultural interests of our common country will prove successful, and that your excellent agricultural journal will find its way into at least twenty thousand families, as I am sure no farmer can possibly lay out a dollar more profitably.

Your friend, Alexander M'Donald.

RENOVATION OF SOILS.

Dr. D. Lee—*Sir*,—At the last meeting of the Orange Agricultural Club, a resolution was adopted requiring the Corresponding Secretary, to send you a copy of a Report on a farm made by a Committee, with the request that you will give your views upon it. In obedience to that resolution, I enclose you the following report.—Any communication from you directed to Liberty Mills, Orange Co., Virginia, will be thankfully received. Very respectfully,

Ebenezer Gross, *Cor. Sec.*

Somerset, Va. May 9, 1846.

REPORT.

The fact connected with the past and present condition of Farm No. 3 (Mr. Henshaw's,) especially referred to by the committee on farming, are of peculiar, and great interest, to all dependent on Wheat as a staple crop.

There is nothing in the appearance of this farm to distinguish it from the Southwestern mountain lands generally, unless it be its comparative exemption from puff or blown land, and its abounding more in rich gravelly slopes, and in some parts the greater adhesiveness of the soils. More than thirty years ago, and before the introduction of any improving system, its reputation was deservedly high for its especial adaptation to *wheat*.—About the year 1815, the five shift rotation, or three consecutive crops in grain—two of wheat and one of corn—with two years of clover intervening, and the liberal use of gypsum, was commenced. Much of the clover of the first years was mowed for hay and feed. That of the second in some instances closely, and in others partially grazed previous to preparation for wheat. This system was steadily adhered to up to 1835, from which time to 1840 but little gypsum was used. The crops of wheat from the commencement of this system progressively improved till 1830 in seasons equally favorable, and 14 bushels to 1 sown was harvested in that year. Since that period the wheat crops have rapidly declined, and with the exception of one year when 8 to 1 was made, it is believed they have not received more than from two to four bushels from one of seed.

Since 1840 no regular rotation has been observed, and the use of plaster has been resumed, and liberally applied, without however, its usual effect on vegetation. During the first ten or fifteen years after its use was commenced, *its action upon clover and wheat was truly marvellous*, and from the rich luxuriance of these crops, and the improved aspect of the soil, the highest degree of enduring fertility was anticipated.

More attention during the whole of this period, was paid to making and applying manure than perhaps on any other farm in the county, and as tobacco has not been cultivated, the manure has been used for the general improvement of the farm, and not on particular fields for the benefit of that crop. While such has been the diminution of the wheat crop, *the capacity of the soil for the production of corn has greatly increased.* Heavier crops of this grain is being now raised than ever before.

Clover also has declined, although not to the same extent of wheat. On an adjoining farm, identical in soil and all its leading characteristics, where clover and plaster have been used only for the last three years, ten bushels of wheat to one sown was harvested the present year. On the farm under review only three bushels of wheat from one of seed was harvested, from land that yields a third more corn than the former. Fields that have not produced a crop of the latter grain (corn,) for six or eight years, if thoroughly prepared and well sown with wheat in due season, produce crops really worth harvesting. Every change of rotation has been resorted to on the farm that fails to bring wheat, without improvement.

That this is not owing to *general* sterility is evident from the fact that, other crops succeed where wheat will not grow. Similar instances of the special exhaustion of the soil have occurred in other districts of our country, and are doubtless to be attributed to the injudicious course of cultivating the same crop too frequently on the same land, instead of alternating unlike crops, and thereby enlarging the interval between crops of a like composition. Our very limited acquaintance with agricultural chemistry would deter us from hazarding an opinion or even a conjecture on so interesting a subject but for the hope of attracting to it the attention of others, whose taste and pursuits may enable them to point out a remedy where the evil already exists, and the means by which it may be avoided where it may yet occur.

* * * * * *

JAS. NEWMAN,
JNO. WILLIS,
E. HENSHAW. } *Com. on Farms.*

ANSWER TO THE ABOVE.

We omit the speculations of the Committee from a lack of room.

The *facts* in this well authenticated case are of great importance. They elucidate a material, and by many doubted point in the science of agriculture. Practically they demonstrate, what we have long maintained, that neither ordinary barn yard manure, nor gypsum *alone* is adapted to the production of perfect wheat plants. So long as the surface soil contains, in fair proportions, all the elements of wheat, this crop may be successfully cultivated. But when it fails in that regard, the restitution of the lacking ingredients is a matter more difficult, in *practice*, than most men are aware of. We suppose from the circumstances attending the culture of the farm in question, that the surface soil now lacks the *phosphoric acid* required to form good crops of wheat. In forming 1000 lbs. of the seeds of this invaluable plant, nature uses not far from twelve pounds of the acid above named. If a farmer were to feed 1000 lbs. of shelled corn to his swine, and save every particle of their dung and urine to apply to his wheat fallow, and *all* the phosphoric acid in the manure should enter into the composition, not of the stems and seeds of wheat, but of the *seeds alone*, it would furnish phosphorus enough for only 400 lbs. of wheat. We wish to call particular attention to the fact that, it requires 2500 lbs. of corn to furnish the mineral elements neccessary to make 1000 lbs of wheat. Hence, it is obvious that, to make that amount of wheat from manure formed by the consumption of corn, a *large excess of other ingredients* than phosphates—mainly organic elements—must be applied to the soil. This excess will, in practice, be found injurious, if not ruinous to the crop.—The same reason will apply with greater force when one attempts to form the seeds of wheat from common barnyard manure, which is itself made up of the elements contained in corn stalks and leaves, timothy, blue grass, oats, buckwheat, &c. As a general rule, we find, on a critical examination, that, it will take six parts of dry barnyard manure to form all the constituents required to make one part of the seeds of wheat. This is true of wheat *straw*. In making the latter into manure and then into potatoes, there is a loss of 50 per cent. of the fertilizing elements contained in wheat straw. But we are digressing.

One reason *why* a fair crop of corn may be grown on land that will not bear wheat is, because the roots of corn are three times longer than those of wheat, and hence imbibe the mineral elements required to form the ash in the stems, cobs, and seeds of this plant, from a depth in the earth quite beyond the reach of the roots of the wheat plant. Hence, too, a soil that has so little phosphoric acid that it will grow only four bushels of wheat per acre, may raise twenty-five of corn. The roots of clover are longer than those of wheat, and of course draw alkaline phosphates from a greater depth than the latter plant.

It is owing to this fact that by plowing in a crop of clover on a wheat fallow, we place in the surface soil valuable minerals which the long tap roots of clover have drawn from the subsoil below. But when even that resource fails, from a lack of *deep ploughing*, excessive cropping, or both, then partial sterility is inevitable, unless the agriculturists shall use *bone earth and wood ashes* equal to the demand of his wheat crops. Bones may be reduced to small pieces by boiling a few hours in ley, and then can be sown at the rate of 200 lbs. per acre, with double that weight of unleached ashes. This is our prescription to produce wheat on the farm described by the Committee. We will add that, Mr. Henshaw should plow his land a little deeper than he has hitherto been wont to plow, for wheat. He will find the addition of common salt, gypsum, and lime beneficial, but must not depend on either to yield *phosphoric acid*.

We fully concur with the committee in their remarks as to the importance of having this soil analyzed. Every man accustomed to reason admits, that it takes 100 lbs. of *something* to make 100 lbs. of wheat. Will he not also admit that, the producer of this bread-forming grain should know how much of this "something" he has in his soil? So, too, if a farmer wishes to feed a ton of hay to his cow, and then make her manure into a crop of potatoes, should he not know what elements his potato plants must have? and what the ton of hay *will*, and what it will not furnish? It is obvious that no animal can create out of nothing a new element, or add to any one contained in its food and drink. To know the character of any manure, one must understand the precise composition of the food and drink out of which the manure was formed. As the ash of timothy hay contains only 15 per cent. of potash, while the ash of potatoes contains 51½ per cent. of that alkali, it is obvious that it will take 340 lbs. of the natural minerals in timothy to yield that 51½ lbs. of potash found in 100 lbs. of potato ash.

A man might as well attempt to make a pound of solid bone out of the materials in a pound of bread, as to think of making a pound of oat straw into manure, and the manure into a pound of oats How few practical farmers can tell how many oats 100 lbs. of oat straw will make; and what addition to oat

straw manure is necessary to use it up to the best advantage in making it into peas, beans, corn, flax, wheat, rye, apple trees, or any other cultivated living thing? To make, by artificial means, a large yield of good plump wheat, and at a remunerating profit, requires a knowledge of the science of agriculture. Practical men that despise the aid of science usually apply too much of several ingredients, of which there is no lack in the soil. Like the old alchymists, they attempt to transmute a ton of iron into a like weight of pure gold, and of course fail.—They imagine that the sulphur and lime in gypsum can be transformed into bread, meat, butter, potatoes, cabbage, and turnips, with equal facility.

COTTON SEED OIL.

After much inquiry and research for information on the subject of cotton-seed oil, we can give nothing more than is contained in the following communication from *J. Hamilton Cooper*, esq., of Georgia, which was published by Mr. *Ellsworth* in his Report for 1844:

The seed of the *Sea Island* or *long staple* cotton weighs about 40 lbs. to the bushel. As it is less coated with fibre, the yield of oil to the bushel will be considerably greater than that of the upland; but I am unable to say what it is. As the two kinds are only varieties of the same plant, it is presumed that there is no difference in the oil from the two.

Practically considered, the Sea Island cotton seed may be put out of the question, from its limited production, and the value set on it by planters as a manure.

From the experiments made on a large scale at Natchez, the oil from upland cotton seed was found, when well refined, to burn as well as spermaceti; it made also an excellent paint oil. There was, however, much difficulty in refining it, and so much waste in accomplishing it as to render the manufacture unprofitable. The process employed were such as were used in the Netherlands, France, and in America; but none of them was satisfactory. There is every reason to expect that the great improvements and discoveries now making in organic chemistry will soon supply a satisfactory process of refinement.

As there are 30 bushels of seed to every bale of cotton, each bale will yield at least 15 gallons of crude oil, and 360 lbs of oil cake. If the oil can be made to be worth 50 cents per gallon, and the cake be sold only for one cent, an increase of $10 at least per bale will be given, which is 2,000,000 of bales will be sold for $20,000,000.

Through the greater part of the Western country, the seed is absolutely thrown away, as the lands are too rich to be manured. The oil cake from cotton seed has been extensively used by me as feed for horses, cattle, and sheep, and was found to be excellent. It may be used with equal advantage with *rape-cake* for food or manure.

Upland or Sea-Island cotton seed may be obtained from any of the factors in Charleston or Savannah.

No difficulty exists in hulling, tempering, or expressing the oil. The huller of Follet & Smith, of Petersburg, Virginia, accomplishes the first very effectually, at the rate of a bushel of kernel in four or five minutes; and the machinery employed in French Flanders for rape seed, etc., answers perfectly for cotton seed.

The present low prices of cotton will present a sufficient inducement to planters to save and sell the seed at reasonable prices, and it is believed that, if a cheap and effective mode of refining the oil can be discovered, this branch of manufacture will become one of very high value to the country.

J. Hamilton Cooper, near Darien, Ga.

Memoranda of experiments made in January, 1836, at Natchez, to ascertain the relative quantities of crude oil, cake, etc., from the seed of the short staple or upland cotton.

A.—200 grains (by weight) of seed, good quality, well dried in the sun, opened by hand, and the kernels carefully separated from the hulls and fibre, gave of—

Kernels	115½ grains, being	57¾ per cent.
Hulls and fibre	84½ " "	42¼ "
	200	100

B.—The same seed, after being well sun-dried, were heated on a shovel over the fire, until they became crisp. They lost 2½ per cent in weight.

C.—One bushel (even measure) of seed, heated during eight minutes in a drying kiln, was hulled by Follet's huller, and gave—

Kernels	14½ lbs., or	54½ per cent.
Hulls and fibre	12¼ "	45¾ "

26¾ lbs weight of one bushel of seed, *even* or *struck* measure.

D.—One bushel (heaped measure) kiln dried, gave—

Kernels	16½ lbs., or	54.17 per cent,
Hulls and fibre	13¾ "	45.83 "

30 lbs. weight of one bushel of seed, heaped measure.

E.—Ten bushels of kiln dried seed, slightly heaped, weighed - - - - - - - - - - - - 301 lbs.
When hulled, they yielded 9½ bushels of hulls, etc., weighing - - - - - - - - - - 117 "
And 5 bushels of kernels, weighing - - - 184 "
Which 5 bushels of kernels, when kneaded into a paste under the stones, with 2 qts. of water, gave 3 bushels 18 quarts of tempered *meal*, which weighed - - - - 198 "
or 58¼ lbs. per bushel.

F.—The average weight of a bushel of tempered meal is - - - - - - - - - - - - - - 61 "
Deduct for water - - - - - - - - - - - 3 "
Leaves weight of the kernel - - - - - - 58 "

G.—One gallon of crude oil from the press weighed 7 lbs. 6 oz.

H.—One bushel of well tempered meal, weighing 61 lbs., was pressed, and the cake retempered and repressed; it gave—

1st pressing	6½	quarts of crude oil.
2d pressing	2⅖	" "
	9 1-10	" "

Weight of the bushel of meal - - - - - - - 61 lbs.
Weight of 9 1-10 quarts, at 7 lbs. 6 oz per gallon, (G.) - - - - - - - - - - - - - - 16¼ "
Leaves for weight of the *cake*, - - - - - - - 44¼ "

RESULTS.

One bushel of seed, weighing 30 lbs., gives 16 lbs. of kernel, which, when tempered and twice pressed, yields from 2¼ quarts to 2 7-10 quarts of *crude oil*, and 12¼ lbs. of *cake*.

From the Report of the Commissioner of Patents.

TABULAR ESTIMATE OF THE CROPS FOR 1845.

State, or Territory.	Populati'n in 1840.	Present est. Popul.	Wheat.	Barley.	Oats.	Rye.	Buck-wheat.	Indian corn.	Potatos.	Hay.	Tobacco.	Cotton.	Silk cocoons.	Sugar.
			Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Tons.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Maine,	501,973	575,500	502,000	273,000	1,564 000	185,000	69 000	1,912 000	8,613 000	1,877 000			944	300 000
N. Hampshire,	284,574	291,500	647,000	123,000	1,942 000	425,000	154 000	1,928,000	3,714 000	526 000			1 210	2.200 000
Massachusetts,	737,699	817,000	241,000	162,000	1,856 000	594,—	193 —	3,098 —	3,038 000	530 000	123 000		47 110	500 000
Rhode Island,	108,830	120,000	5,000	51,000	200 000	47,—	4 —	731 —	650 —	46 000			1 250	
Connecticut,	309,978	320,000	114,000	26.000	1,646 000	1,010,—	444 —	2,649 —	1.694 —	458 000	794 000		220 000	50 000
Vermont,	291,948	298,000	854,000	51,000	3,593 000	321,—	300 —	1,798 —	4,926 —	1,139 000			13 740	10.000 000
New York,	2,428,921	2,626,000	16,200,000	3,574,000	23,700 000	3,560,—	3,347 —	13,250 —	21,986 —	3,703 000			7 850	14.500 000
New Jersey,	373,306	409,000	1,050,000	8,500	4,912 000	2,954,—	900 —	7,314 —	1,767 —	282 000			6 240	
Pennsylvania,	1,724,033	1,960,000	12,580,000	141,000	19,826 000	11,929,—	3,322 —	17,126 —	5,497 —	1,527 000	535 000		41 370	1.600 000
Delaware,	78,085	79,000	440,000	4,500	828 000	53,—	13 —	2,713 —	155 —	19 000			5 500	
Maryland,	470,019	485,500	4,884,000	2,700	1,691 000	944,—	109 —	3,723 —	705 —	56 000	17,920 000	6 000	1o 240	
Virginia,	1,239,797	1,255,000	11,885,000	84,600	6,888 000	1,441,—		27,272 —	1,899 —	296 000	30,218 000	2,412 000	9 260	1.700 000
N. Carolina,	753,419	760,000	1,969,000	5,600	2,673 000	217,—		14,887 —	2,711 —	67 000	10,373 000	40.000 000	8 850	9 000
S. Carolina,	594,398	600,000	1,168,000	3,000	700 000	48,—		8,184 —	2,520 —	16 000	40 000	45.000 000	7 620	30 000
Georgia,	691,392	784,000	1,571,000	11,800	833 000	64,—		13,320 —	1,536 —	13 000	195 000	205.000 000	8 430	330 000
Alabama,	590,756	660,000	980,000	7,200	1,527 000	76,—		16,850 —	1,635 —	15 000	341 000	145.000 000	7 890	12 000
Mississippi,	375,651	586,000	378,000	1,800	1,189 000	21,—		2,167 —	3,040 —	1 000	193 000	235.000 000	300	
Louisiana,	352,411	440,000				2,—		8,360 —	1,299 —	26 000		185.000 000	1 570	175.000 000
Tennessee,	829,210	910,000	8,340,000	5,500	8,625 000	384,—	26 —	70,265 —	2,256 —	42 000	37,109 000	48.000 000	3o 110	520 000
Kentucky,	779,828	835,000	4,769,000	15,400	13,091 000	2,542,—	14 —	54,625 —	1,508 —	123 000	63,310 000	1.200 000	6 970	2.100 000
Ohio,	1,519,467	1,760,000	13,572,000	219,600	24,447 000	798,—	950 —	57,600 —	4,120 —	1.251 000	7,576 000		39 370	3.900 000
Indiana,	685,866	860,000	7,044,000	35,200	13,902 000	221,—	73 —	30,625 —	2 680 —	1,351 000	3,520 000		1 150	8.000 000
Illinois,	476,183	722,000	4,563,000	101,200	12,957 000	143,—	99 —	25,584 —	2,631 —	297 000	1,168 000	270 000	4 680	600 000
Missouri,	383,102	540,000	1,525,000	11,000	5,466 000	81,—	19 —	15,625 —	875 —	77 000	13,744 000	200 000	290	450 000
Arkansas,	97,574	140,000	2,427,000	900	436 000	12,—		8,250 —	642 —	1 000		17.000 000	300	5 000
Michigan,	212,267	320,000	7,061,000	197,200	4,815 000	77,—	260 —	4,945 —	4,555 —	214 000			1 900	3.000 000
Florida,	54,477	80,000			8 000			733 —	255 —	1 000	260 000	12.000 000	590	750 000
Wisconsin Terr.	30,945	100,000	971,000	20,000	1,200 000	5,—	25 —	672 —	938 —	84 000			40	300 000
Iowa Territory,	43,112	115,000	793,000	25,000	681 000	8,—	14 —	2,028 —	516 —	26 000				150 000
Dist. Columbia,	43,712	54,000	15,000		12 000	7,—		35 —	41 —	1 000			1 500	
Texas,		100,000												
Total,	17,069,453	19,602,500	106,548 000	5,160,600	163,208 000	27,175 000	10,258 000	417,899 000	88,392 000	14,065 000	187,422 000	936,088 000	486 530	226,093 000

Tennessee is estimated to have produced, of Flax and hemp, 1,500 tons; Kentuckey, 22,500; Ohio, 500; Indiana, 500; Illinois, 500; Missouri, 12,500. Of Rice, the produce of Virginia is estimated at 2,500 pounds; of North Carolina, 3,000,000; South Carolina, 66,500,000; Georgia, 14,500,000; Alabama, 280,000; Mississippi, 975,000; Louisiana, 3,800,000; Tennessee, 9,000; Kentucky, 17,000; Arkansas, 6,500; and Florida, 675,000.

HORTICULTURAL.

WORK IN THE GARDEN.

Savoys and Borecole. In the first week of this month set out your Savoy and Borecole plants.

Spinach. Prepare your ground and sow spinach seed. It will be ready for eating in September and the early part of October.

Radishes. Prepare a bed, by manuring and raking fine, then sow black and white Spanish or winter radish seed. These will be fit for use in September. By sowing a few seed at intervals of a few days apart you can secure a continuous supply through October.

Asparagus Beds. Clean these up and fork in some manure consisting of rotten manure and ashes.

Turnips. Prepare a bed and sow Early Dutch Turnip seed.

Celery. Set out your Celery plants for fall and winter crops. Seize the occurrence of the first rain to set them out, and as soon as the earth becomes in the least dry, you must water them every evening just before sun-down, until they take root and manifest thriftiness of growth, and at all events until a good rain shall come. The earlier planted celery must be earthed up for bleaching.

Small Sallading—of all kinds may now be sown in beds and borders.

Beans and Peas. Beds of these for late use may now be planted—the Peas in a light, and the Beans in a stiffer soil.

Lettuce. If you have any plants large enough you must set them out to head—that done sow some seed for later use.

Brussels Sprouts. About the middle of this month, select a bed, dry and warmly situated in your garden, manure it well with stuble manure, dig it in, spade deep, rake well, then give a liberal top dressing of well rotted manure, rake that in thoroughly and sow your seed about as thick as you would turnip seed—rake these in lightly and pat the bed down with the back of a spade, and you will have performed all the cultivation necessary, and secured yourself a bed of luscious greens or sprouts for next spring's use. A small bed 10 by 30 feet would suply a very large family, and as the Brussels sprouts require no working after planting, we know of no vegetable better suited than it to those who have not an abundance of labor.

Herbs, Pot and Medicinal. Cut and dry these in the shade for winter use. Slips of Thyme, Sage, Rue, Lavender, Hyssop and winter Savory may be planted out, if done early this month.

Early Yorks, &c. If you desire to secure a supply of Early Cabbages for the use of your family or for market, now is the time to sow the seed. Procure seeds of different kinds, prepare a border, by manuring it well and digging it deeply, then rake, put on an inch of well rotted manure, rake that in well, sow your seed, rake them in and pat the earth with the back of your spade. Should drouth ensue, water the bed every evening until rain comes. These plants will be fit to set out in the fall when we will tell you how to set them out to withstand the winter.

Budding. This is the proper season to bud or inoculate Peaches, Nectarines, Apples, Pears, Plums, Cherries, and, indeed all other garden or orchard fruits.

Cabbages. Hoe up your cabbages, keep the ground open and clear of weeds—and speaking of weeds reminds us that one of the first duties of a good gardener is to see that no weed or grass should have a footing in his garden.

Fruit Trees in the Garden. Paint the bodies of your garden fruit trees with the following. Mix together a gallon of soft soap, a quart of salt and half a pound of flour sulphur, and give them a thin coat with a paint or white-wash brush.

Strawberry Beds. Cut the runners off the vines, clean out the weeds and give the beds a top dressing of rich mould or well rotted dung.

Having thus closed our hints for the month's work, we feel assured that our omissions will be more than supplied by she whose pride and pleasure it is to superintend the spot allotted to the garden, as it is in the nature of woman—ministering angel as she is—to leave nothing undone which can contribute to the comfort of her kind.

POTATOES.—This crop has suffered more from the disease, universally felt, than would appear from any notice which papers have given. We anticipate a great increase of the evil during the summer. Much of the seed planted has been sorted out from infected crops, and doubtless, will carry its secret taint to the field, and speedily develope it.—*Indiana Farmer and Gardener.*

BUDDING.

THIS is an important, though very simple, operation in the business of tree growing. It is much less understood, throughout the country, than grafting, though easier performed. Every person engaged, more or less, in the culture of trees for fruit or ornament, should know how to insert a bud. It is more applicable to the propagation of all stone fruits than grafting: it can be performed, too, on smaller stocks, and as a general thing makes finer trees.

Buds of rare, scarce trees can be more easily procured than grafts, and can be as easily transmitted from one place to another, and particularly now that expresses are in operation in every direction. For the benefit of those who have yet to learn, we give the following directions and illustrations from "Downing's Fruits and Fruit Trees of America:"—

"*The proper season for budding* fruit trees, in this country, is from the first of July to the first of September; the different trees coming into season as follows: Plums, Cherries, Apricot, on Plums, Apricots, Pears, Apples, Quinces, Nectarines and Peaches. Trees of considerable size will require budding earlier than young seedling stocks. But the operation is always, and only, performed *when the bark of the stock parts or separates freely from the wood*, and when the buds of the current year's growth are somewhat plump, and the young wood is growing firm. Young stocks in the nursery, if thrifty, are usually planted out in rows in the spring, and budded the same summer or autumn.

Fig. 16 *A stick of buds.*

Before commencing you should provide yourself with a budding knife about 4½ inches long, having a rounded blade at one end, and an ivory handle terminating in a thin rounded edge called the *haft* at the other.

In choosing your buds, select thrifty shoots that have nearly done growing, and prepare what is called a *stick of buds*, (Fig. 16,) by cutting off a few of the imperfect buds at the lower, and such as may be yet too soft at the upper ends, leaving only smooth well developed single buds; double buds being fruit buds. Cut off the leaves, allowing about half an inch of the *foot-stalks* to remain for conveniently inserting the buds. Some strands of bass-matting about 12 or 14 inches long, previously soaked in water to render them soft and pliable, (or in the absence of these some soft woollen yarn,) must also be at hand for tying the buds.

Shield or T budding is the most approved mode in all countries. A new variety of this method now generally practiced in this country, we shall describe first, as being the simplest and best mode for fruit trees.

American Shield Budding. Having your stick of buds ready, choose a smooth portion of the stock. When the latter is small, let it be near the ground, and, if equally convenient, select also the north side of the stock, as less exposed to the sun. Make an upright incision in the bark from an inch to an inch and a half long, and at the top of this make a cross cut, so that the whole shall form a T. From the stick of buds, your knife being very sharp, cut a thin, smooth slice of wood and bark containing a bud, Fig. 17, *a*. With the ivory haft of your budding knife now raise the bark on each side of the incision just wide enough to admit easily the prepared bud. Taking hold of the foot-stalk of the leaf, insert the bud under the bark, pushing it down to the bottom of the incision. If the upper portion of the bud projects above the horizontal part of the T, cut it smoothly off now, so that it may completely fit *b*. A bandage of the soft matting is now tied pretty firmly over the whole wound, Fig. 18, commencing at the bottom, and leaving the bud, and the footstalk of the leaf only exposed to the light and air.

Fig. 18. Fig. 17. *American shield budding.*

After Treatment. In two weeks after the operation you will be able to see whether the bud has taken, by its plumpness and freshness. If it has failed, you may, if the bark still parts readily, make another trial; a clever budder will not lose over 6 or 8 per cent. If it has succeeded, after a fortnight more has elapsed, the bandage must be loosened, or if the stock has swelled much, it should be removed altogether. When budding has been performed very late, we have occasionally found it an advantage to leave the bandage on during the winter."

Ladies' Department.

FLORICULTURE.

Prepared for the *American Farmer*, by Mr. SAMUEL FEAST, *Florist.*

WORK FOR AUGUST.

Geraniums should now be cut down, and placed in a half shady situation until they begin to grow, when they may be repotted in a rich loamy soil.

Orange or Lemon Trees may still be budded. Attend to pruning and repotting if they require it.

Chrysanthmeums will need repotting into larger sized pots. Continue to nip the tops off the shoots as they advance in growth.

Cyclamens should now be repotted in some light loamy soil.

Callas, *Oxalises*, and the different genera of *Cape bulbs*, should be repotted towards the latter end of the month.

Carnations and Pinks should be layered forthwith, if not already done.

Chinese Primroses from seed, should be potted off about the latter part of the month.

Camellias.—Give due attention to the watering and syringing of these. Inarching, grafting, or budding may still be done.

Mignonette and *Schizanthus* seeds may now be sown, for blooming in winter.

Stock Gillinflowers for spring bloom should now be sown.

Dahlias.—Keep these tied neatly to their stakes as they advance in growth.

Green-house Plants.—Repot such as need it—and attend to giving good supplies of water in dry weather.

THE WIFE TO HER ABSENT HUSBAND.

Linger not long! Home is not home without thee;
Its dearest tokens only make me mourn;
Oh! let thy mem'ry like a chain about thee,
Gently compel and hasten thy return.
Linger not long!

Linger not long! tho' crowds should woo thy staying,
Bethink thee, can the mirth of friends, tho' dear,
Assuage the pain, the grief, the long delaying,
Costs the fond heart, that sighs to have thee here?
Linger not long!

Linger not long! How I shall watch thy coming!
As evening shadows stretch o'er moor and dell,
When the wild bee has ceased its busy humming,
And silence hangs on all things, like a spell?
Linger not long!

How I shall watch for thee! when fears grow strong-er,
As night grows dark and darker on the hill,
How I shall weep! when I can watch no longer—
Oh! art thou absent—art thou absent still?
Linger not long!

Yet I should grieve not, tho' the eye that seeth thee,
Gazeth through tears that make its lustre dull;
For ah! I sometimes fear when thou art near me,
My cup of happiness is all too full!
Linger not long!

Haste, then, oh! haste unto thy peaceful dwelling,
Haste, as a bird unto its own lov'd nest,—
Haste, as the bark, when tempests wild are swelling,
Flies to its haven of securest rest!
Linger not long!

FEEDING COWS.

BY THE EDITOR OF THE FARMER'S LIBRARY.

The cow requires to be supplied with abundance of food, not to make her fat, which is not desirable, but to keep up a regular secretion of milk in the system. The feeding must be regular, from morning to night, and pure water must be offered at proper intervals, if the cow has not the liberty of going to the water herself.

Regarding the nature of the food of cows, although soiling, or artificial feeding in the house is at all times economical, there can be no doubt that the best milk and butter is produced by cows fed on natural pasture; and, although the quantity of milk is not so great, yet the butter has a sweet taste, never to be discovered in the produce of soiled cows. It was formerly the case in Scotland, and the practice is still continued in some parts, to put the cows out to grass in the spring in such an emaciated state that a considerable part of the best season was gone before they yielded the quantity of milk they otherwise would have done. On well enclosed farms, it is the custom of many to keep their cows out both night and day, from May till the end of October, so long as a full bite can be obtained; and some bring them into the house twice a day to be milked.—Soiling or feeding entirely in the house or court-yard, is but seldom practiced, except by some farmers in arable districts. Although complete soiling is only occasionally resorted to, yet a considerable quantity of rich green food is served out to the dairy stock in their stalls at night, and in the heat of the day, by such farmers as bring their cows into the house at these times. This mode of feeding is more especially followed when the pasture begins to fail; the second crops of clover and tares, cabbages, coleworts, and other garden produce: are all given to the cows in the house at this period. It is upon this system that the whole perfection of the Flemish husbandry is founded; and it could be put in practice, with the most beneficial results, in many other countries. In Holland, the cows, when fed in the house, have their drink of water invariably mixed with oil-cake, or rye, or oatmeal. Dairy cows are allowed to be much injured by being denied a due supply of salt, which is said to improve the quality and increase the quantity of the milk. In the best managed dairies in Scotland, when the cows are taken in for the winter, they are never put out to the fields until spring, when the grass has risen so much as to afford a full bite. In the moorish districts, however, they are put out to the fields for some hours every day when the weather will permit. In these districts the winter food is turnips with marsh hay—occasionally straw and boiled chaff.

In the rich districts, turnips and straw are given, and occasionally some clover hay in spring, or when the cows have calved. Upon this subject nothing need be added, but that the quantity and quality of the milk will be in proportion to the nourishment in the food. White turnips afford a good quantity of milk, but they impart a very disagreeable taste, which may be removed, however, by steaming or boiling the turnips, or by putting a small quantity of dissolved saltpetre into the milk when new drawn. The quality of the milk depends a great deal on the cow; influenced, however, by the food she eats. Linseed, peas and oatmeal produce rich milk; and a mixture of bran and grains has been recommended as food in winter. Brewers' grains are said to produce a large quantity of milk, but very thin—the quality being somewhat similar to that sold in large towns, yielding neither good cream nor butter. It has been found of some importance to feed cows frequently—three or four times a day in summer, and five or six in winter—and to give them no more at a time than they can eat cleanly.

What has been stated regarding the feeding of the cows applies principally to those kept on dairy farms. In establishments for the supplying of large towns with milk, the method of feeding is somewhat different; there the practice is to feed them chiefly on distillers' wash, brewers' grains, and every sort of liquid stuff that will produce a large quantity of milk, without reference to its quality. The Edinburg cow-keepers begin to feed with grain, grog, and bran, mixed together, at five o'clock in the morning; feed again at one o'clock in the afternoon, and a third time at seven or eight o'clock in the evening; grass in summer, and turnips and potatoes in winter, being given in two intervals. The grass is laid upon the straw in order to impart to it a certain flavor, and make it palatable, it is eaten after the grass; and, in winter, straw or hay is given after the turnips. Part of the turnips and potatoes are boiled, particularly when there is a scarcity of grain.

The following is mentioned in the "Farmers' Magazine," as an improved mode of feeding milch cows, near Farnham, in Surrey:—"Go to the cow stall at six o'clock in the morning, winter and summer; give each cow half a bushel of the mangel-wurtzel, carrots, turnips, or potatoes, cut; at seven o' clock, the hour the dairy-maid comes to milk them, give each some hay, and let them feed until they are *all* milked. If any cow refuses hay give her something she will eat—such as grains, carrots, &c.—during the time she is milking: it is *absolutely necessary* the cow should feed while milking. As soon as the woman has finished milking in the morning, turn the cows into the airing ground, and let there be plenty of *fresh water* in the troughs; at nine o'clock give each cow three gallons of the mixture (as under—to eight gallons of grains add four gallons of bran or pollard;) when they have eaten that, put some hay into the cribs; at twelve o'clock, give each three gallons of the mixture as before. If any cow looks for more, give her another gallon. On the contrary, if she will not eat what you give her, take it out of the manger; for never at one time let a cow have more than she will eat up *clean*. Mind and keep your mangers clean, that they do not get sour. At two o'clock, give each cow half a bushel of carrots, mangle-wurzel, or turnips; look the turnips, &c. over well, before you give them to the cows—as one rotten turnip, &c. will give a bad taste to the milk, and most likely spoil a whole dairy of butter. At four o'clock, put the cows into the stall to be milked; feed them on hay as you did at milking time in the morning, keeping in mind that the cow, while milking, must feed on something. At six o'clock, give each cow three gallons of the mixture as before. Rack them up at eight o'clock. Twice in a week, put into each cow's feed at noon a quart of salt dust."

To Kill Cockroaches.—We copy the following from Dr. Harris' excellent work on the "Insects of Massachusetts."

Mix together a table-spoonful of red-lead and of Indian meal with molasses enough to make a thick batter, and place the mixture at night on a plate or piece of board in the closets or on the hearths frequented by the cockroaches. They will eat it and become poisoned thereby. The dose is to be repeated for several nights in succession.

HOW TO MAKE VINEGAR.

Many people find it difficult to make good vinegar. When we moved to Wheatland on the first of May we found two barrels partly full of old cider standing in the sun, in the hope, on the part of the owner, that the cider would become acetic acid. A few grapes, and we believe some yeast had been put into the barrels, but still the transformation would not take place. By the following process good vinegar was made in two or three days, and with closer attention might have been made in 36 hours:

One barrel was set up on end, the hoops started and the upper head taken out. The cider was taken out down below the middle of the barrel, so that the bung could be open to admit the air. Several small sticks were set on end in the barrel, on the upper extremities of which pieces of shingle rested just above the surface of the cider. On these strips of shingle was placed a quantity of clean pine shavings, which happened to be at hand. With these the barrel was loosely filled. A pailful or two of the cider was drawn by tapping the barrel near the lower head, and warmed to blood heat, and made to trickle down over the whole surface of the shavings into the cider below. After this, sufficient heat was generated by the active chemical action, or acetous fermentation that followed, to keep the shavings at 98°, or thereabouts. So soon as the cider began to turn sour a part of it was made to trickle down a piece of old carpet like an untwisted rope into the bung-hole of the other barrel of cider. This barrel was tapped, and the cider drawn and poured over the shavings, and also converted into good vinegar.

The *rationale* of making good alcohol and acetic acid is this:

The alcohol found in cider, wine, beer, fermented milk, whiskey, &c., is made of elements contained in sugar and starch, which are elaborated by living plants in their fruit, like apples and grapes; and seeds, as in corn, rye, and barley. Starch and sugar are composed of elements precisely alike in character and quantity, viz: 12 parts of carbon, 10 of oxygen, and 10 of hydrogen. Before alcohol is formed of these elements, they combine with 2 atoms more of oxygen and hydrogen, and make *grape sugar*. The formula of which is, 12 carbon, 12 oxygen, and 12 hydrogen. The formula of alcohol is 4 carbon, 6 hydrogen, and 2 oxygen. To make *two* atoms of alcohol will require 8 carbon, 12 hydrogen, and 4 oxygen. As *one* atom of grape sugar has 12 carbon, 12 hydrogen, and 12 oxygen, it is obvious that 8 parts of oxygen and 4 of carbon will be left from an atom of grape sugar after 2 atoms of alcohol have been formed. Now in making an atom of carbonic acid, oxygen combines with carbon in the ratio of 2 parts of oxygen to 1 of carbon, or 8 of O. 4 of C. Hence we see *why* it is that in all vinous fermentations, whether in the domestic brewing of small beer, raising bread, or in making ale or whiskey in large establishments, fixed air, or carbonic acid gas, is generated.

To understand the transformation of alcohol in cider, beer, whiskey, or brandy, into vinegar, the unlearned reader will note the following facts: The composition of alcohol is 4 carbonic, 6 hydrogen, and 3 oxygen. That of pure vinegar—anhydrous acetic acid—is 4 carbon, 3 hydrogen, and 3 oxygen. Water is composed of an atom of oxygen united with an atom of hydrogen, although the atom of oxygen is 8 times heavier than that of hydrogen. If 4 atoms of oxygen (which exist in the atmosphere) combine with 1 of alcohol, the composition of the latter will stand 4 C., 6 H., and 6 O.* Three atoms of the oxygen thus derived from the air unite with 3 atoms of the hydrogen in alcohol to form 3 atoms of water, which leaves 4 carbon, 3 hydrogen, and 3 oxygen, or an atom of pure vinegar, *diluted* in 3 atoms of water.

We omit to state the process of forming what chemists term *aldehyd*, intermediate between alcohol and acetic acid, as unimportant to the practical farmer. Practically, it is seen that to convert alcohol into vinegar, we have only to *oxidise* the former. This is done by exposing alcohol to the chemical action of the atmosphere, by spreading it over an immense surface of thin coiled up shavings for a short time. Warmth favors the chemical change. But when the alcohol is confined from the air in a tight barrel, except with an open bung hole, and perhaps the neck of an inverted bottle in that, it may take three or four months to change it into vinegar. Every body knows that a high heat is generated when alcohol is burnt in a spirit lamp. This is owing to the formation of water by the chemical union of oxygen in the air with the 6 parts of hydrogen in 1 of alcohol. For the same reason heat is evolved in the shavings in a cider barrel when the alcohol in cider is transformed into acetic acid.

New Genesee Farmer.

* C. stands for carbon, H. for hydrogen, and O. for oxygen.

RECIPES.

Egg Pone.—Three eggs to a quart of meal—no wheat flour—to be made also with milk—water would make it heavy—a spoonful of butter, all well beat together and made up of a consistence thicker than the cakes—too thick to *pour* out—but just thick enough to require to be taken up with a spoon—may be baked like the cakes, immediately after being mixed—must be baked in a tin pan, which must be placed in a Dutch oven, not *too hot* at first, but the fire under it to be increased. The object is to have it begin to bake *at the bottom*, when it will *rise* in the process of baking, become brown on the top, and when put on the table and cut, resemble what we call *pound cake*. If your friend will exactly follow these directions, and then eat his cakes or his egg pone, *hot*, with good fresh butter, he will find that Indian corn bread is fit for other persons, as well as *pigs* to eat, the assertion of a corn law member of Parliament, to the contrary, notwithstanding. Divers other preparations of corn and corn meal can be given. For instance "hominy and ash-cakes," which a certain *George Washington* had cooked for his own eating to the day of his death. J. S. S.

P. S.—Salt, of course, add as usual, in both cases.

Composition Cake.—One pound of sugar, half a pound of butter, four eggs, one cup of milk, half a tea-spoonfull of salaratus, or volatile salts, dissolved in water, half a nutmeg, one tea-spoonful of essence of lemon, and as much flour as will make a stiff batter.

Beat these well together; then add one pound of currants or chopped raisins.

Line square tin pans with buttered paper, and put in the mixture an inch deep and bake in a quick oven.

When cold, cut it in small squares, or oblong pieces.

To ice it, take it from the pan and paper; turn the pan upside down; set the cake on it to ice; when icing is done, cut the cake.

To the Editor of the American Farmer:

I am a subscriber to your valuable paper the American Farmer; I find there that Mr. Tilghman, of the Eastern Shore, Md. gives you the produce of two varieties of wheat, one wherein 3 heads contain 64 grains, and the other, 3 heads containing 94.

I received a bag of wheat last fall, raised in Frederick county, Md. (red chaff smooth ;) in taking 17 heads of this wheat this season and shelling it, I found the 17, large and small, contained 997, averaging 58 grains to each head ; many of the heads would yield from 62 to 70 grains. Respectfully, W. S. Barn.

Md. and Delaware line, July 25, 1846.

METEOROLOGICAL TABLE, FROM 27TH JUNE, TO THE 28TH JULY.

Kept at Schellman Hall, near Sykesville, Carroll co. Md. Taken at 6 o'clock, a. m., 2 o'clock, noon, and at 6 o'clock, p.m.

	Wind.			Temperature			Remarks.
27	W	W	E	68	81	68	Clear Rain 1-8 in Clear
28	SE	NE	NE	62	68	70	Rain 5-8 in Cloudy
29	E	SE	W	67	76	73	Fog Rain Cloudy
30	E	E	E	68	70	68	Rain 4 inchss
1	SW	SW	SW	69	76	75	Cloudy Clear
2	W	W	SW	71	76	75	Rain 1-2 in. Cloudy Clear,
3	E	NE	NE	71	70	68	Rain 1 5-8 in. Clear
4	NE	*W*	*W*	65	70	71	Rain 1 in. Cloudy
5	W	SW	W	67	82	76	Fog, Clear, Gust 1-4 in. Clear,
6	W	W	W	70	85	82	Clear
7	W	W	W	70	80	75	Clear
8	W	W	S	64	80	75	Clear
9	W	W	W	75	84	80	Clear
10	W	W	W	74	87	85	Clear
11	*W*	SW	*SW*	76	90	85	Clear
12	W	W	*W*	76	86	83	Clear
13	W	W	W	73	83	79	Clear
14	W	W	W	67	79	71	Clear
15	NW	NW	NW	59	69	65	Clear
16	NW	E	W	52	70	66	Clear
17	SW	NE	NE	57	66	61	Cloudy Rain 1-4 in.
18	NE	NE	NE	57	69	67	Cloudy
19	NE	NE	S	62	69	70	Mist Showery 1-4 in. Clear
20	S	S	S	63	74	70	Fog, Cloudy,
21	W	W	S	64	74	71	Cloudy
22	SW	SE	SW	65	70	75	Rain 1 1-2 in.
23	*NW*	W	W	72	77	75	Clear
24	W	*W*	*W*	74	83	82	Rain 1-2 in. Clear
25	W	NW	W	70	81	77	Clear
26	W	W	W	66	85	79	Clear
27	W	W	S	69	79	76	Cloudy Clear
28	NE	SE		69	77		Cloudy Clear

BALTIMORE MARKET, July 30.

Flour, Howard st. last sales $4, holders ask $4 12, without affecting sales; receipt price from cars, 3.87. City Mills, small sales at $4.25—Susquehanna, limited sales, 4.12—Rye, Pa. 1st, $3 per bbl.—*Corn Meal* $2.62 for Pa.—*Wheat*, fair supply, sales of new Md. at 85a92c for good to strictly prime parcels, and at 75a85c for ord. to good—sales of family flour white at 105a110c—*Corn*, white 51a52c. and yellow 54a56, but little receiving—*Oats*, 28a30c for good to prime lots—*Rye*, 62c. very little receiving—*Pork*, is firm, an advance of 50c. on previous rates is asked to-day, but no sales; yesterday sales of Western mess and prime were made at $10.50a8.50—nothing doing in *Beef*, which we quote for Western mess at $9.50, No. 1 at $6.75a7, and prime 5.a5.50—*Bacon* is in fair demand, shoulders 4a4½c. sides 5½, hams 6a7—*Lard*, prime 7¼a7½ in kegs, 6¼a6¾ in bbls. *Whiskey*, small sales of hhds. at 24c.; we hear of nothing doing in bbls.—*Coffee*, in consequence of the uncertainty in relation to the proposed alteration of the tariff, is in an unsettled state—*Cotton*, limited sales of N. Carolina upland at 8½c. we hear of no other transactions—*Mackerel*, demand fair, No. 1, $11; No. 2, old 6a6.50, new 7; No. 3, small 4.75, large 5.62, and old 5.25—*Shad*, dull at 5.75—*Feathers*, good 28c. prime 30c—*Hemp*, Western dew rotted 3¾a4—*Molasses*, P. Rico 25c. for hhds. and N. Or. 30 for bbls.—*Rice* 3¼a3½ for good to prime—*Sugars* have improved during the last week 25a37c.; P. Rico 6.25a7.60; N. Orl. 6.50a6 75, prime lots held at $7—*Wool*, sales at 20a23c for washed common, 30a36 for full blood to extra prime —*Tobacco*, receipts continue heavy, all the inspection houses are full, and the inspectors are all advertising to receive proposals for storage out; good descriptions of both Md. and Ohio have sold pretty freely, and some parcels of com. and infer. have also been taken out of the market during the past week ; we quote infer. and com. Md. at $1.50a2.50; midd'g to good 3a5.50; good 6, and fine 7a12 ; Ohio, comm. to mid. 1.50a3.50; good 4 50a6; fine red and wrappery 6 50a9; fine yellow 9a11, and ex. wrappery 10a12. The inspections for the last 4 weeks comprise, Md. 2117 hhds. Ohio 5379, Ky. 139, Va. 7—total 7702. —*Cattle*, the supply of beeves is light, and prices on Monday were a shade better; the offerings at the scales amounted to 209 head, all of which met with ready sale at prices ranging from $2.50a3.25 per 100 lbs. on the hoof, equal to 5a6.25 net, averaging $3. —*Hogs*, live, are scarce and in demand, at $5a5.26.

☞The latest news from England announces the passage of the Corn-law bill, which however has had no effect on our market.

☞Congress has passed the new Tariff act, and it has no doubt received the President's signature ere this, and become the law of the land.

AGRICULTURAL IMPLEMENTS—LABOR SAVING MACHINERY.—*GEORGE PAGE*, Machinist & Manufacturer, Baltimore st. West of Schroeder st. Baltimore, is now prepared to supply Agriculturists and all others in want of Agricultural and Labor-saving MACHINERY, with any thing in his line. He can furnish Portable Saw Mills to go by steam, horse or water power ; Lumber Wheels ; Horse Powers of various sizes, ranging in price from $85 to $200, and each simple, strong and powerful. His *Horse Power & Thrashing Machine*, he is prepared to supply at the low price of $125 complete ; the Thrashing Machines without the horse power, according to size, at $30, 40, 65 and $75; Improved Seed and Corn Planters, Portable Tobacco Press ; Portable Grist Mills complete, $125.

AGRICULTURAL IMPLEMENTS for sale at No. 7 Bowly's wharf, Baltimore, by WM. GAWTHROP & SON. We offer to Farmers and Planters our Premium Double Corn Shellers, which have proved themselves to be the very best now in use—we have on hand one of the best selections of PLOWS in the state, the castings of which are the composition metal, with chilled heels, points and edges ; our plows embrace the Minor & Horton from 6 inch. to 12, so much used in the North; it is one of the lightest draught plows in use—we have the Wiley improved, and the old pattern of the N. York manufacture, which is known without comment. Also, the Prouty, Chenoweth, Self-sharpening, Davis, and all other kinds ; Plow Shears and Points for all kinds of Plows ; Fans, Straw Cutters, Corn and Cob Crushers, and all other kinds of Implements used in farming—we also keep all kinds of Field Seeds—we do a general commission business in Grain, Seeds and Country Produce. Fe

PREMIUM PLOW!

We call the attention of Farmers to our "Maryland Self-Sharpening Plow," which is now in general use and highly esteemed, either for the roughest or clean land. At the late Prince George's Agricultural Fair it received the highest premium notwithstanding the array of the best Boston, New York and Maryland plows against which it had to contend. R. SINCLAIR, Jr. & Co., Manufacturers, dec 1 62 *Light Street.*

PREMIUM WHEAT FANS AND GRAIN CRADLES.

These Implements have been brought to such perfection by J. T. Grant & Co., of New York, that the use of them is no longer considered laborious, (as formerly) but may be used by boys or the weaker hands on a plantation. They will be kept for sale during the harvest season by the subscriber, who is the sole Agent in Baltimore *and vicinity.*

EZRA WHITMAN, Jr.
May 1 No. 56 Light-st.—Baltimore.

Volumes of the Farmer neatly bound can be had for $1.25 per volume—or sent by mail, in sheets, at $1.

ETRURIAN WHEAT—The subscriber will furnish this wheat, raised by Rev. D. Zollickoffer, of Carroll co. Md. (from whom a communication will be found in this (August) No. of the *American Farmer*). It will be put up in two bushel bags, at $2 per bushel, 37 1-2 cents for bags. This wheat is free of garlic—it is believed to be a valuable variety for the South. The grain is very large, plump and heavy. For further particulars, reference is made to the columns of the American Farmer. Address, S. SANDS, 122 Baltimore-st. —Baltimore. Aug. 1

TURNIP SEED, for sale by S. SANDS,
Office American Farmer, 122 Baltimore st.
Also a general assortment of Garden and Flower Seeds, and Agricultural Books, &c. au 1

PATENT PARALLEL VICES.—The subscriber is the owner of the Patent Right for the State of Maryland for Taylor's Patent Parallel Vices, and is now making such as are particularly adapted to the use of Carpenters, Cabinet-makers and Carriage makers.
The Supreintendant of the Patent office (W. Knowls) has had one of the vices in use for a year and gives it as his opinion, that any person who makes much use of a vice after a trial of one of these for six months, would not be deprived of its advantages for forty dollars a year. J. S. EASTMAN.
Aug 1.

J. S. EASTMAN, would inform his friends and customers that, though he has advertized his present stock on hand for sale, and his front store, on Pratt St. for rent, he will still continue the manufacture of Agricultural Implements in his fine buildings, in the rear of said Store, through which there will be a passage to his shops back; to accomplish this desirable object, he offers his present large stock on hand at very reduced prices—Having an Iron Foundry on the premises, he will keep a great variety of Plough Castings on hand, at wholesale and retail as heretofore—His present stock of castings is large, and made of the very best iron—Every possible exertion will be used to continue the high reputation he has gained heretofore for good and faithful made work.

FARM MANAGER.—Wanted a situation as manager of agent on a large farm or estate by a farmer who has been educated on the border counties of England and Scotland, and upwards of three years in this country. Apply to
S. SANDS, Office of the American Farmer.

THE PLUMBE
NATIONAL DAGUERIAN GALLERY.
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Instituted in 1840.
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AWARDED the GOLD and SILVER MEDALS, FOUR FIRST PREMIUMS, and TWO HIGHEST HONORS at the NATIONAL, and MASSACHUSETTS, the NEW YORK, and the PENNSYLVANIA EXHIBITIONS, respectively, for the
MOST SPLENDID COLORED DAGUERREOTYPES, AND BEST APPARATUS.
Portraits taken in any weather in exquisite style.
Apparatus and Stock, wholesale and retail.
Instruction given in the art. aug 1

FOR SALE—A very superior Durham Bull, 2 years old; his sire and dam both imported; bred by one of the best stock raisers in this county; he is beautiful in all his points; color red; pedigree unsurpassed; and of a family distinguished for their success in bearing off the highest awards at Fairs. Price $100. Apply for further information at this office. au 1
Also young short horn Durhams and Devon Bulls, 3 to 18 mos. old, superior stock, $25 to $50.

DURHAM SHORT-HORNS.
FOR SALE, several Young Durham BULLS, from 2 months to 2 years old, of the very best stock in the U. S. The character of the breeder of this stock is a sure guarantee of their purity; they are of the finest kind of Durhams, and are from the best of milkers. The owner having an extensive Dairy, and the demand for the products thereof being great, induces him to part with his young Bulls at very low rates—the Cow calves could scarcely be purchased at any price. The sum of $300 dollars has been offered within a few weeks for one of the cows, and refused. For further particulars apply to S. SANDS, publisher American Farmer.
Also several fine young DEVON BULLS, thorough-bred, about 4 to 5 months old, very fine animals—apply as above. jy1

BOMMER'S METHOD FOR MAKING MANURE—The subscriber has been appointed by Mr. Bommer, his agent for the Southern States, and will dispose of the Books, with the right to use them, for any sized farm, at $5 each. Address (post paid) mi SAML. SANDS, office of "A. Farmer."

PLOUGHS! PLOUGHS!!
The subscriber is manufacturing Ploughs of various patterns and of different sizes; also Wheat Fans, Cylindrical Straw Cutters, Corn and Tobacco Cultivators, CORN SHELLERS, &c. Also,
THRESHING MACHINES and HORSE POWERS—these latter are used by the following gentlemen, to whom reference is made, as to their superior value, viz. Messrs. S. Beard, T. Beard, Dr. Watkins, T. J. Hodges, T. Welsh, W. Mackall, J. Igleheart, A. Sellman, W. Hopkins, J. Kent, G. R. Gaither, all of Anne Arundel county; and to Messrs. R. B. Chew, J. Y. Barber, W. Boswell, G. W. Weems, and Z. Howes, of Calvert co. Md. ☞Those wishing to examine the above articles are invited to call at my establishment in *Gillingham alley*, entrance from Howard st. 4 doors from Pratt st. Baltimore.
mh 1 CHAS. H. DRURY.

"Spade labour, the perfection of good husbandry."

PULVERIZATION.

DECOMPOSITION.

THE "PREMIUM PLOUGH"—In PROUTY & MEARS' No. 5 1-2, "confessedly the best PLOUGH known in this country for beauty of work and pulverizing the soil," we have combined the most perfect swing as well as wheel Plough, connected also with the principles of self-sharpening and central draught, which with the facility of turning it into a Tandem 2, 4, or 3 horses abreast Plough in a minute of time, renders it the NE PLUS ULTRA of perfection. During the past season it received the first premium for the BEST PLOUGH, at Philadelphia; a first, second and third premium at New Castle county, Del.; the Imperial Medal of Russia, of massive gold, value $300; and at Prince George's society, Md. the highest testimony of approbation, in not permitting it to compete, having already received the first premium as "the *BEST PLOUGH* for general purposes." Their one-horse Plough No. 2 1-2, is strongly recommended for light soils and horticultural purposes, being built after the same model, self-sharpening, and carrying a sod furrow 10 in wide with great ease and precision.
For sale at No. 55 LIGHT ST. Baltimore, MR. EZRA WHITMAN being appointed sole Agent for sales in Baltimore and vicinity. Fe 1

JAMES MURRAY'S *CORN & COB CRUSHERS*—These already celebrated machines have obtained the premium by a fair trial against other Crushers exhibited at the fair held at Govanstown, Balt. co. Md. in Oct. 1843, and the increased demand enables the patentee to give further inducements to purchasers by fitting an extra pair of grinders to each machine without extra charge. Prices $25, 30, 35, 40, 45.
ALSO—Small MILLS, which received a certificate of merit, for $15—I have also superior CUTTING BOXES, such as will bear inspection by either farmers or mechanics. Also, Horse Powers, Mills, Corn Shellers, Mill and Carry-log Screws, small Steam Engines, Turning Lathes, &c. Also, a second hand Steam Engine, 16 horse power, and the works for 2 Saw Mills.
Any kind of Machine, Model or Mill-work built to order, and all mills planned and erected by me, warranted to operate well.
Patent Rights for the Corn and Cob Crusher for sale.
Jy. JAS. MURRAY, Millwright, York near Light st. Balt.

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